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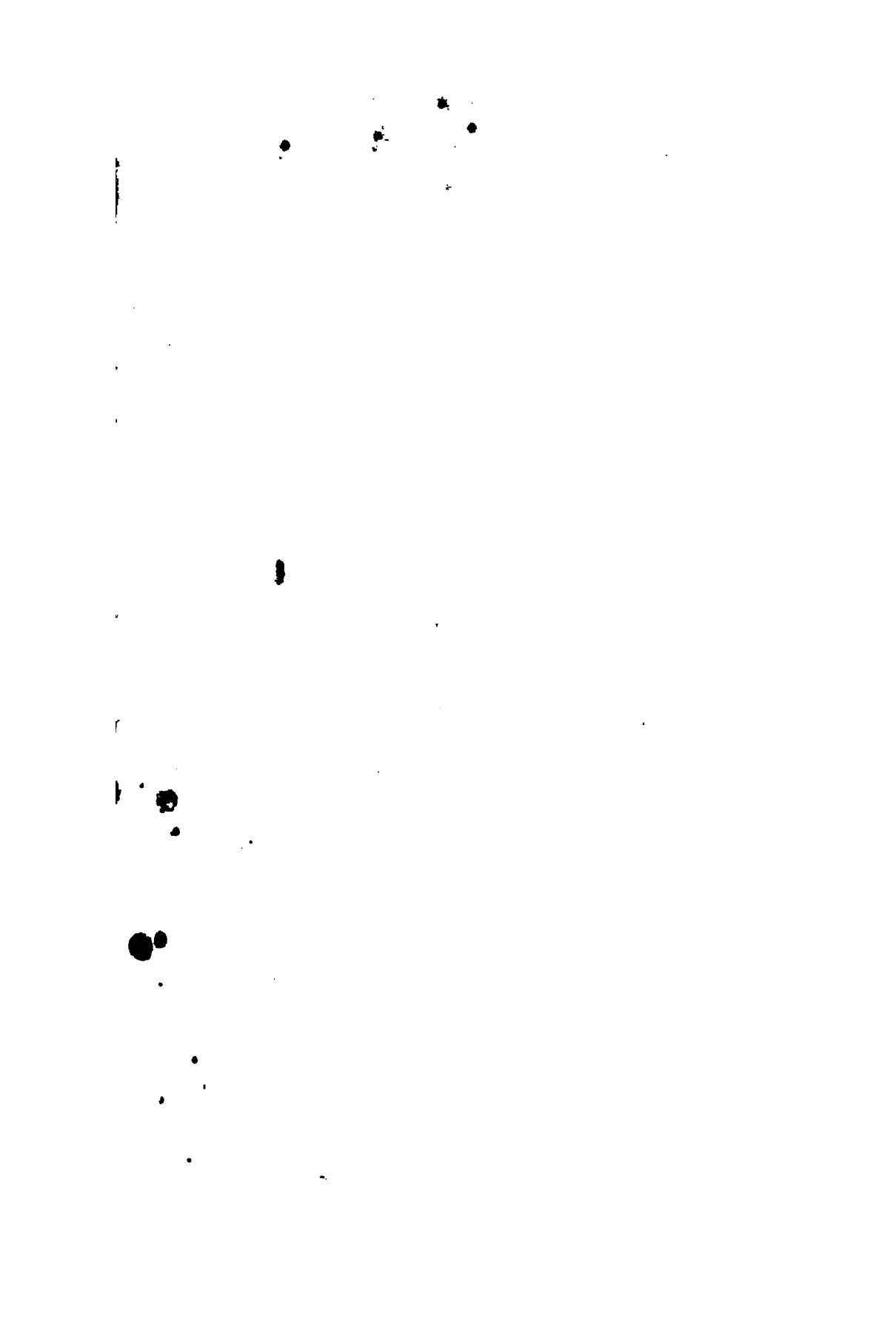


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THE

RAILWAY REGISTER.



THE
RAILWAY REGISTER,
AND
RECORD OF PUBLIC ENTERPRISE
FOR
RAILWAYS, MINES, PATENTS, AND INVENTIONS.

EDITED BY
HYDE CLARKE, ESQ.

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TO

HENRY HOULDSWORTH, ESQ.,

CHAIRMAN OF THE MANCHESTER AND LEEDS RAILWAY COMPANY,

THIS FOURTH VOLUME

OF THE

RAILWAY REGISTER

IS DEDICATED,

IN

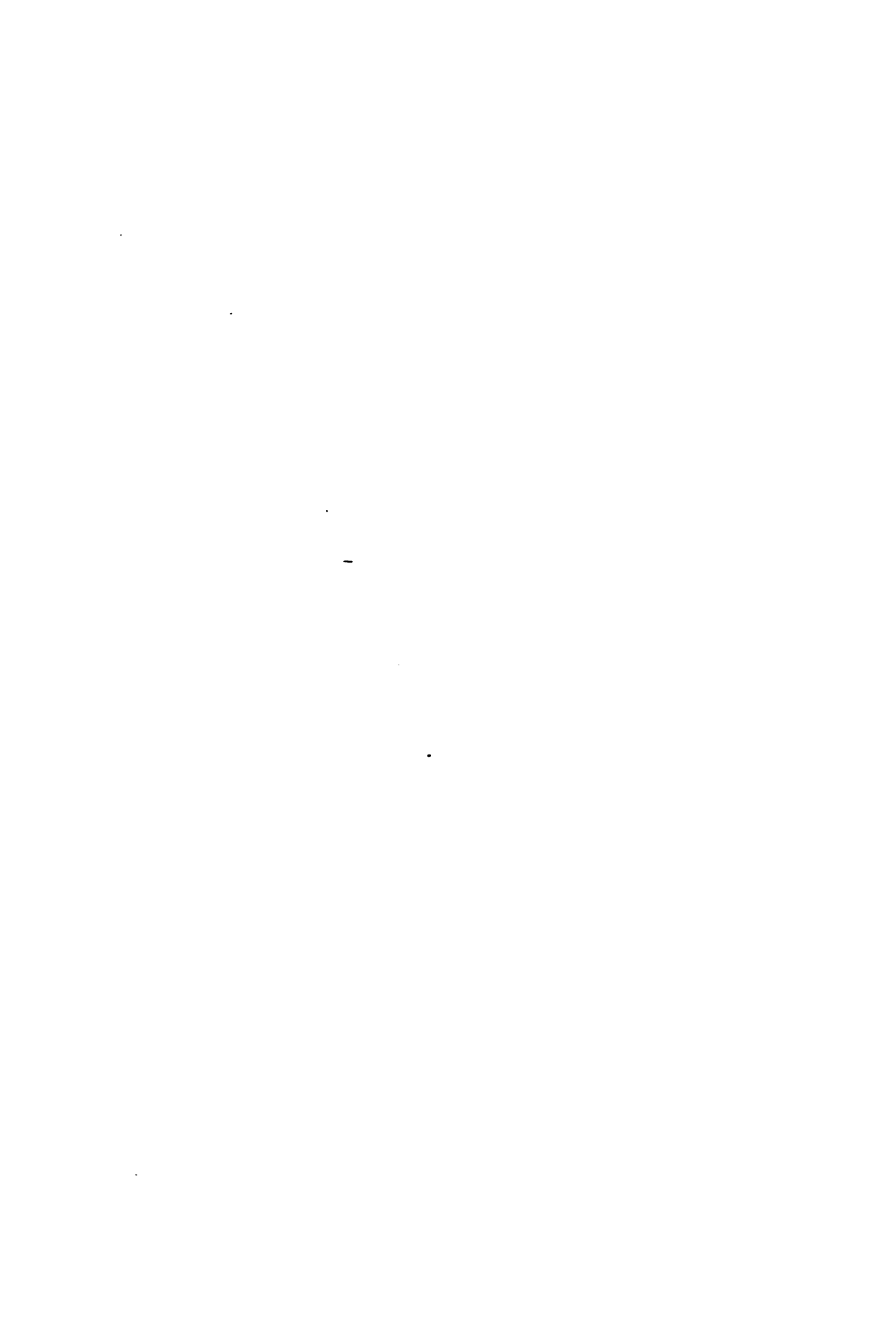
TESTIMONY OF HIS EXERTIONS

IN THE PROMOTION OF

RAILWAY STATISTICS AND ADMINISTRATION,

BY

HYDE CLARKE.



P R E F A C E.

The Editor, in concluding the **FOURTH VOLUME** of the **RAILWAY REGISTER**, considers it his chief duty to return thanks for the support he has received from railway capitalists, and for the co-operation of so many leading and influential members of the railway world.

The circumstances of this period, so distinct from those of last year, have necessarily given a very different appearance to the present volume; but it is hoped that the character of practical utility will be maintained, if not enhanced.

The contributions include a greater extent of original matter than in any previous volume, and they tend to illustrate some very important points in railway administration.

The articles on the Theory of Railway Investment, form the only extended investigation of the subject; and, although they have met with unusual attention from the Press, have not received any review.

The series of Contributions to Railway Statistics afford the most convenient digest of the information on railway traffic, and have been accepted as a standard by many railway managers.

The Digest of the Statistics of Belgian Railway Traffic, in 1844 and 1845, anticipates the report of the Minister of Public Works for the latter year, and vindicates the superiority of the joint-stock system, and of English management.

In the articles on Indian Railway Administration, just commenced, the investigation of the principles involved in Indian management tends to throw a new light on the management of railways generally.

The *Railway Portfolio* contains a mass of important documents, being the only record of the kind, and the originals are, in many cases, no longer to be found in the offices of the companies.

Some of these articles have been published in a separate form, at the same price as the single numbers, so that the whole volume will not be found deficient in value to its predecessors.

THE RAILWAY REGISTER.

THE CONTEST OF THE GAGES.

1. *Uniformity of Gage.* By FRANCIS WHISHAW, C.E. London : 1842.
2. *Railways. The Gage Question.* By WYNDHAM HARDING. London : Weale, 1845.
3. *Report of the Commissioners on the Gages.* 1846.
4. *Observations on the Report of the Gage Commissioners.* London: Snell, 1846 (for the Great Western Railway Company.)
5. *Report of the Board of Trade on the Gages.* 1846.
6. *Articles on the Gage Question*, republished from the *Railway Record* newspaper. London : 1846.

NOTHING can be more perilous for a work to which the reputation of impartiality is essential and important, than to enter upon a contest in which powerful parties are engaged, and in which violent passions are enlisted. Such is the gage contest. Prejudice, rather than reason, is the actuating motive with each party, and whether the new comer takes either side, or takes neither, he is pretty sure of the serious ill will of both parties. Hitherto we have felt little disposition to expose ourselves to this result, and the more so as we did not expect to do any good by engaging in the partisan warfare, for the simple cause that reason was not listened to on the subject on whichever side it enlisted itself ; while, from the plan of the *Railway Register*, we had no imperative call to take part in the contest. Now that the matter may be considered as virtually settled, we can, with less danger to the utility of our publication, and with less fear of misapprehension, though, we are free to confess, with very much less danger, look upon the subject as one belonging to railway history.

We shall at once confess that our sympathies are with the broad gage, though in this publication we have shown no more devotion to Great Western than to London and Birmingham, or to Midland interests. Coming in after the battle is decided, we can expect no present influence from our remarks, though we were able to prove that the broad gage had thrice the paramount merits which are claimed by its advocates. We may, perhaps, however, in the end, do some good, by analysing the character of events, which, had their result been other than it is, would have materially influenced railway destinies for the worse.

When the gage contest began is one of the parts of the controversy, for in one sense it began when a different gage was adopted on the Great Western, and on the Northern and Eastern ; but it must be acknowledged that with the construction of these lines the controversy lulled, if it did not cease. In the year 1844, however, it broke out with greater vehemence, and that we think is the true date of the origin of this great debate, and which we shall

adopt, thereby sparing ourselves and our readers from going over the ground of the original discussions in 1836, 1837, and 1838, as to Mr. Brunel's plans. We are aware that Mr. Francis Whishaw, an eminent authority on railway subjects, took up the question of uniformity of gage some four years ago, but we are still inclined to consider the Oxford and Wolverhampton contest in 1845 as the point and origin from which the late bitter warfare proceeded.

In 1845, the London and Birmingham, and the Great Western, proposed each a separate scheme for communicating with the Wolverhampton iron and coal districts and with Worcester; and the issue involved not merely the rich traffic of those districts, but the communication with Mid Wales and South Wales. One very strong point in favour of the Great Western was, that they proposed to attain an independent communication from London to Birmingham, an object in which they were supported by the Grand Junction, in that year a close ally of the Great Western, as they are now closely leagued with the London and Birmingham. An object so ambitious was naturally more hateful to the London and Birmingham than the pretension to the local traffic, and it became a life and death matter with the London and Birmingham to oppose the Great Western by any and every means in their power.

Had it been merely a question of Staffordshire and Worcestershire, we scarcely believe that the London and Birmingham would have fought so fiercely, but the threat to invade their territories and to destroy their monopoly of the Birmingham traffic, made it incumbent on the directors to spare no exertions in their defence. In 1844 and 1845, in our first volume, we drew attention to the merits of the two schemes, and we feel now, as we did then, that it was most difficult to decide on the merits of either the London and Birmingham line or the Great Western; and although a committee of the House of Commons gave it in favour of the latter after a protracted inquiry, we are not quite so sure that for local purposes the London and Birmingham line was not the better. What mainly weighed with the committee was nevertheless the desire of getting another line to Birmingham, so strong was the feeling then among the public as to the necessity of keeping down what were called the giant monopolies, and which was created and kept up by the agitation and misrepresentations of writers, many of whom did not know what a railway was until long after they had written and published their books on railway legislation.

To counteract the campaign against itself, the London and Birmingham used every mode of depreciating the Great Western; and this became the more necessary as the Great Western, by means of their proposed new lines, asserted they would beat the London and Birmingham in the traffic from London to Birmingham, although working over a longer line. The chief plea of detraction on which the London and Birmingham depended was on break of gage, although they also asserted that the broad gage was unsuitable for goods and mineral traffic. To meet an antagonist who claimed to be a superior, it was certainly bold policy to tax him with inferiority and incapacity; but the London and Birmingham did not quail, and they were seconded by men whose ability it is almost impossible adequately to commend, for they were certainly encountered by master spirits of the same calibre.

The evils resulting from break of gage* were thundered forth in every form which the boldness, energy, and ingenuity of narrow gage advocates could accomplish, and at last the public were duly inoculated with the impression. The break of gage had little influence with the committee on the Oxford bills, but the London and Birmingham fought after their defeat there, and made it tell afterwards, and for further purposes. Among the public, the narrow gage writers certainly awoke the greater sympathy, for they inveighed against an apparent evil. Their supporters, fortunately for them, were derived from many classes, and particularly from parties favourable to a wider gage. While some supported the narrow gage from conviction or policy, and it was chiefly from the latter motive, and others were only influenced by a desire to remedy the break of gage at Gloucester, the majority of the public supported the narrow gage views from a desire to obtain a uniformity of gage. Of this latter class many were deeply impressed with the inferiority of the narrow gage; but looking at it as a *fait accompli*, as a great fact, they gave up their preference for a broad gage to advocate uniformity of gage. This was a most serious detriment to the broad gage party; for whatever they might say or do, however they might prove the superiority of a broad gage, and under other circumstances to a willing audience, they found ears closed against them, and the whole matter prejudged on other grounds. This was, we say, a great detriment to the broad gage party, and a great help to the narrow gage, for argument became useless; with some a class or acquired feeling in favour of uniformity or centralisation overcame every effort of reason, and had the broad gage possessed a tenfold superiority it would have pleaded in vain.

As most of those who, on scientific grounds, were favourable to a wide gage on motives of feeling or expediency, had given their adhesion to the narrow gage, the mass of the public, who have little time or little capacity for the scientific bearings of such a subject, were left as it were at the mercy of those who advocated a narrow gage. The broad gage thus became involved in a contest in which, deprived of railway allies by the defection of the Grand Junction, deprived of fair play with the public by the lukewarmness or neutralisation of the wide gage advocates of uniformity, they had to contend with small forces numerically against all the scientific and engineering force which the narrow gage interest could array. It is true, the narrow gage lines generally have no interest in the question, but as it is one of life to the London and Birmingham, they have insisted upon the aid of every ally. If the Midland suffer from break of gage, it is because they have advanced to Gloucester; and as to the Northern and Eastern lines, they have about as much to fear from the wide gage as from the Pope of Rome.

In its true bearings, this has been a conflict between the London and Birmingham and Great Western, for London and Birmingham purposes, and the narrow gage lines generally have been brought in as allies, sometimes fighting on one side and sometimes on the other. Had attention been paid to the true nature of the conflict we should

*The word "gage" has been a suffering party in the conflict, for instead of the old form of "gauge" or "gage" agreeing with the pronunciation, the printers, to whom the matter has been left, have, with few exceptions, adopted "gauge"—a corrupt form of the last century, which is unsupported by analogy, and would make "gawge." *This by way of apology for our own spelling.*

not have witnessed that strength of feeling nor that violence of partisanship which so lately influenced railway society and the railway press ; and had the truth been generally understood the public would have been little disposed to sympathise with the London and Birmingham policy. To have taken advantage of this *embrouillement* in the very moment of defeat, and to have applied it so ably, is one of the points of technical and political skill for which the London and Birmingham managers deserve the greatest praise. The Great Western might triumph in getting the Worcester and Wolverhampton, and Oxford and Rugby lines ; but in the midst of their success their wily opponents had planted an engine, which seemed at one time very nearly to have effected the entire abolition of the broad gage, and the supplanting of it by the narrow gage—an end which, if attained, would have effectually crippled the Great Western from ever competing with the London and Birmingham, or interfering with a traffic, which, according to the fashionable notions of railway economy, is the birthright and domain of the London and Birmingham Company.

The point on which the public are truly interested is certainly not the protection of the London and Birmingham or Great Western in the rule or monopoly of any railway district, but in getting from either party the uttermost amount of accommodation. Least of all are the public interested to know whether the Great Western costs more for working, or pays a less dividend, when the dividend received by the shareholders is an ample return on the capital. If it were true that the Great Western could be worked more profitably on the narrow gage, it might concern the Great Western shareholders, but it would not concern either the London and Birmingham shareholders or the public. Without adverting to this point in detail, we may remark that an argument, which has been ably handled by the *Railway Record* newspaper, to show that the Great Western is inferior to the London and Birmingham line, because it is not a ten per cent. line, and whereby it is intimated that the payment of ten per cent. is a peculiar and sovereign virtue of narrowness of gage, might be applied with some significance to the Midlands, to the Eastern Counties, the South Eastern, and the Brighton, none of which are yet 10 per cent. lines, because they have not yet reached an adequate traffic. The Northern and Eastern would have paid just as good a dividend at the present moment as a broad gage line as it does being a narrow gage line. In all that has been written on the subject, though disadvantageous comparisons have been often successfully instituted between London and Birmingham expenditure and Great Western expenditure on some items, the great thing has been left out for the instruction of the Great Western shareholders ; and that is, how to get the same through traffic from Bath or Bristol, which is got from Liverpool, Manchester, and five millions of manufacturing population in the northern districts. A large and rich traffic can always be worked more economically, but the enunciation of this fact is of no benefit to shareholders in lines of restricted traffic.

Fortunately for the public, the broad gage has not been abolished, but it has not been from the want of talent or want of exertion on the part of the narrow gage advocates. In nothing scarcely has the railway history of 1845 and 1846 been more singular, notwithstanding the

staggism and the panic, than in the degree of talent enlisted in the discussions on the gage question. We do not consider that the protracted agitation on the corn laws has equalled in such respects that on the limited, partial, and class subject of railway gage.

On a calm review, we are inclined to say that though the corn law controversy has caused a greater effusion of ink and a more liberal use of the tongue, it has not enlisted a greater degree of laborious and enlightened research in the discovery and establishment, or in the discussion and application of facts. Less reputation is to be gained in the arena of railway politics, but the partisans have no reason to be ashamed of their exertions. Without dwelling on those who have upheld the broad gage side—on the exertions of Mr. Charles Saunders, Mr. Brunel, and Mr. Gooch—what an array of engineering talent has been brought forth, its energies taxed, its talents stimulated, to obtain success for the London and Birmingham party! Although many names present themselves of those who have variously exerted themselves, we should be doing injustice to the parties if we did not notice among the chief writings on the narrow gage side which have best supported its interests, the pamphlets of Mr. Wyndham Harding, whose varied talents and acquirements could scarcely have been applied with greater distinction; and the articles in the London and Birmingham official organ, since republished, in which the acute and scholarly pen and searching analysis of Mr. John Robertson, the editor of the *Railway Record*, and the eminent mathematical acquirements of Mr. George Bidder, are supposed to have been enlisted in the same pursuit.

The public have been sedulously plied by the narrow gage partisans with appeals to their passions in every form; and while *Punch* has wielded his baton in the cause, the pictorial press has been made to depict break of gage grievances which the narrow gage people have created. Those who consider what a stake the London and Birmingham had at peril, will be disposed to pardon their employing all the means in their power to disconcert an incursive rival. The station at Gloucester was a weapon of war in the hands of the narrow gage people, which has been ably turned to account. It may well be said that every possible and every practicable evil attaching to break of gage has there been invented and put in activity, and the public have been made sensibly to feel inconveniences, under the pressure of which they were of course ready to sign the proffered petitions for uniformity of gage. If the London and Birmingham established a grievance, the public were made to suffer; so that, if

—————delirant reges, plectuntur Achivi

seems to be the natural issue wherever great powers go to war, and the public get into their hands.

To go into the whole history of the gage controversy, or to discuss the numerous topics involved in it, would not merely be a tax on our space, but after all would not so well exhibit the real bearings of the question. We have already acknowledged our convictions in favour of the Great Western, but it is not on that ground we adopt their reply* as our text-book, but because it addresses itself to those points which

* *Observations on the Report of the Gage Commissioners.* London: Snell. 1846.

are of public relevancy. The Report of the Gage Commissioners may well be superseded, for it is virtually put aside by the Board of Trade, and we do not know that any party has much reverence for it. It is a very creditable document for honest men, who were appointed to report upon a subject, the correct mode of investigating which they did not understand, and who possessed among them every qualification except that of being men of business. Humbugged by one side, derided by the other, and left in the lurch by their employers, the gage commissioners have the unenviable lot of having laboriously and conscientiously discharged a duty to the satisfaction and edification of no one but themselves, if, indeed they agreed unanimously to their report. They were decidedly beneath their task.

No one scarcely will blame us for dismissing this report; but for very different reasons we shall discard on the present occasion the more practical and better digested productions of Mr. Wyndham Harding and Mr. Robertson. In many cases they address themselves to the more general bearings, but they are chiefly devoted to discussions rather of technical than of public relevancy. We shall therefore employ only the Great Western observations and the Board of Trade report.

The circumstance which strikes us the most strongly is the astuteness with which the narrow gage advocates have assumed the premises on which they start, and made break of gage the fertile source of evil without proving the fact. This is, indeed, their case, for they have less chance of success in fighting against the Great Western on the ground of general or particular merit. Nearly every one is disposed to allow that a broader gage is desirable; even the gage commissioners are compelled to admit "that the public are mainly indebted for the present rate of speed, and the increased accommodation of the railway carriages, to the genius of Mr. Brunel and the liberality of the Great Western Railway Company." Hence *à fortiori* the stress upon break of gage.

That there are considerable evils attendant upon the break of gage at Gloucester must be acknowledged, chiefly for the reason that those evils have been created and aggravated by the narrow gage managers at that station, and by the peculiar position of the Bristol and Gloucester and Birmingham and Gloucester Railway Companies. It is not, therefore, to be assumed that break of gage is the only cause of shifting of carriages, or that relatively it is a great evil. Still less is it to be assumed, because there are any evils consequent on break of gage, it is necessary to abrogate and annihilate the broad gage.

At cross stations it is already found necessary to shift the carriages, whether on the broad gage or the narrow gage, and this now occurs on the London and Birmingham line in a great degree, though not to that extent which must take place when the branches now in progress are opened. At the present moment, at Hampton, the carriages are shifted for the Derby line; and at Birmingham there is a shifting of carriages, though not a break of gage, on a large scale. Indeed, it may be laid down as a general rule that at the present moment all cross traffic involves a shift of carriage; and even with regard to through traffic diverging from main lines, a shift of carriages in most cases takes place.

On the London and Birmingham line passengers from Liverpool, Manchester, Leeds, Sheffield, Newcastle, or Derby are not carried through to Warwick, Leamington, Peterborough, Northampton or

Aylesbury. From Gloucester or Cheltenham, passengers are not sent through to Birkenhead, Liverpool, or Manchester in the same carriage, and cases may be multiplied. Under any probable mode of carrying on the traffic of the country with the net-work of railways now in progress, when passengers will be collected in small masses from a great many points, it will become quite impossible to carry the mass of passengers through in the same carriages; and it may be observed, also, with the tendency of railway travelling to render less luggage necessary, the evil of removal from carriage to carriage is very much diminished. Neither is it likely that the trouble will be grudged of removing from a narrow gage line worked at a low speed to a broad gage line worked at a high speed. Any loss of time in the change is more than made up by the gain on the increased rate of speed, and we should think that in time there will be a much greater disposition to complain of being forced to travel by the narrow gage, rather than to complain in any way of the break of gage. The disposition will be to clamour for the extension of the broad gage.

Again, adverting to the Birmingham station, how much evil (in the language of the narrow gage party) will there be in changing from carriage to carriage! In about three years, into that tremendous entrepot will be poured passengers from eleven great routes:—

- 1st. From Shrewsbury and Dublin.
- 2nd. From Holyhead, North Wales, and Dublin.
- 3rd. From Chester and Birkenhead.
- 4th. From Liverpool.
- 5th. From Lancaster, Cumberland, and Glasgow.
- 6th. From Edinburgh.
- 7th. From Manchester and East Lancashire.
- 8th. From York and Newcastle.
- 9th. From Derby, Sheffield, Leeds, and West York.
- 10th. From Lincoln and Nottingham.
- 11th. From London.

All this traffic will have to be distributed by the divergences of the several routes—one passenger to this line, two to that, ten to another; and a shifting of carriages on a more extensive scale than at present must be the result of this increase of traffic. At Gloucester, even should the break of gage be continued, the inconvenience can never be so great, because traffic cannot be accumulated from so many points, while the extent of individual hardship must be very small.

The break of gage in the sense of transshipment is not a new evil on passengers and goods coming upon the broad gage routes, for they are subjected to it by the other modes of conveyance. Goods have to be packed and repacked, to be shipped and unshipped, and to be handled repeatedly, and are made up for conveyance accordingly.

It is well put by the Great Western, that “the question would naturally arise, whether *one* such change on a cross traffic—carried on under all the advantages of a simple, well organized arrangement of lading, at a point of conveyance of many trains arriving at different hours from different places, and in various quantities—could constitute such a difficulty as to be comparable to the advantages of free competition, or could justify the destruction of a system admitted to offer many important advantages; more especially when, as already stated,

it has not been proved that nearly the same inconvenience would not arise from the mere junction of several railways, even of the same gage, where the trains must be divided and rearranged."

What the London and Birmingham proposed to offer in compensation of the destruction of the broad gage we never could understand. To the majority of passengers the change of carriages is of no importance at all; for when they get out at Gloucester station, whether they step into one carriage or another, does not matter. Some few passengers between Birmingham and Bristol would be freed from inconvenience; but to effect that, two millions of passengers on the Great Western would be deprived of a high rate of speed and great comfort, and thirty-five millions of passengers on the railways throughout the country would be deprived of the wholesome stimulus of Great Western exertion. The result would be no gain, even to the individuals who would avoid the break of gage, because they would suffer more on the other parts of the journey.

When we speak of a high rate of speed as the prominent advantage derived from the broad gage system, we do not do full justice to it, unless we put it in comparison with the narrow gage lines. On the Great Western, whatever improvement in speed is effected in express trains, is not restricted in its application to the higher classes, or to first-class passengers, but the benefit is communicated also to second class passengers. On narrow gage lines, where, under the spur of the Great Western, a high rate of speed for express trains is effected, it too generally happens that, from the want of power, the passengers carried are limited in number, or limited in class; and for the most part no second class passengers are carried.

On the Great Western the proportion of passengers in the express trains has been—

First class	-	-	-	-	-	28,697
Second class	-	-	-	-	-	46,581
Total	-	-	-	-	-	<u>75,278</u>

While the Great Western express trains convey about 126 passengers per train, the London and Birmingham express trains only convey about 60 or 70 passengers per train.

To the commercial classes it is of the highest importance that they should have two things—a high speed and cheap travelling; and the benefits of these can scarcely be exaggerated. The more these are attained the further is the benefit of the railway system diffused, and the energies of the country promoted. Those whose means are considerable, or whose time is of little value, may not feel this so sensibly, or may object to high rates of speed; but by the commercial and working classes the advantages of the Great Western system are incalculable. If the broad gage were laid between London and Manchester, a Manchester man could, at the new Great Western express rate, come up to town in four hours as a second class passenger, and return in the same time. We leave this fact to speak for itself.

This is a tender point with the London and Birmingham, and they have therefore applied themselves to insinuate that danger is involved in the high rates of speed on the Great Western. The gage commissioners lent themselves to this view, and have held forth that it is

desirable to limit speed. This, if nothing more had been done by them, is a sufficient test of their inability to understand the spirit of the times. Whatever might be adopted as a nominal rate of speed it would certainly be one which was a dangerous rate ten years ago, and there is no proof that what is dangerous now will not by analogy be safe ten years hence. The assumption of danger is, however, like the rest, taken for granted, without being proved; while interference with the rate of speed of express trains is the less justifiable, as it is quite optional with the public to travel by express trains or not, at their pleasure, while they can travel more cheaply by ordinary trains. Under the plea of consulting public safety, the convenience of the public would, in this case, be sacrificed, as in others; and the commercial community would be punished greatly at present, and still more hereafter, in being deprived of accommodation which is to them invaluable.

The plea of danger is put forward, but the object sought is entirely different. Whenever the Great Western increase their rate of speed, as for instance they have this month done to fifty miles an hour, including stoppages, the London and Birmingham are called upon to do the same; and it is only by painful efforts they succeed in coming near the standard, again to be left far behind by some fresh start of the Great Western. This is the very operation which we think most beneficial to the public—that a constant emulation is excited, whereby the public service is promoted. The public are the best judges upon the point of danger, and when real danger does occur, the public will be able to protect themselves without any gage commission. The mania for legislating on behalf of those who do not want it, is bad enough, but it becomes more reprehensible when made a cloak for the interested designs of parties.

A strong point in favour of uniformity of gage was made on the conveyance of troops, as it was asserted great inconvenience from break of gage might arise "in the event of a foreign invasion," as it would militate against the plan "of retaining a great mass of troops in the interior of the country, until the point selected by the enemy for his attack should be ascertained, and then to move upon that point of the coast an overwhelming force." As in case of war a change from the wide to the narrow gage might be made in about a fortnight, we cannot see the relevancy of the argument for immediate uniformity; neither do we see the propriety of making a heavy sacrifice to meet a foreign invasion in the present day, any more than we see the necessity for a national enrolment of volunteers, or any other extraordinary measures which are usually taken to provide against foreign invasion. Foreign invasion is a bugbear, which, at the present moment can scarcely be put forward with any hope of success; but its effect was worth trying.

When the commissioners gave in their adhesion to this will o' the wisp, which was conjured up before them, they quite forgot the bearings of the question. In the first place there is no adequate plant at the present moment to convey what is called "an overwhelming force." The whole machinery of railways would, at the present moment, be inadequate to move even thirty thousand men and their equipments in a reasonable time in any one direction. The plant would be inadequate, and the means of supplying fuel and water for the locomotive power would be singularly deficient. So far from thirty thousand men, which

is a mass far beyond railway means, being "an overwhelming force" to meet a foreign invasion, a hundred thousand men, with three or four hundred pieces of artillery, would not merit that name; for if any debarkation did take place, it would be by the corps of an army of at least two hundred thousand men, supplied with a field train of a thousand pieces. The only power which could ever invade this island, has the means of doing it effectually if it had the opportunity, and if it found the sea clear would never hazard divisions of ten thousand or twenty thousand men to the almost certain fate of being cut up by the local forces. If any troops were landed they would be in such numbers that they could not be met by any central forces, but by troops drawn from all quarters. It would be, under those circumstances, desirable to have all the facilities of the broad gage, to have the reserve of power contemplated in Mr. Brunel's system, to have the high rate of speed, and the powerful engines, capable of moving vast trains. Ten years ago, to convey three hundred troops at twenty-five miles an hour, has been described as a formidable operation. What can be done ten years hence with the present rate of competition, no prudent man will risk himself in calculating. At all events leviathan engines would, under the emergency of invasion, be found useful, while the evils of break of gage in the conveyance of troops, will be well redeemed by the increased facilities of transit afforded by the broad gage.

The gage commissioners in their report could not escape from paying some tribute to the superior merits of the wide gage, but they felt themselves called upon to detract from those merits as far as possible. On the ground of greater safety from accident claimed by the Great Western, the commissioners have created a feeling against them by publishing erroneous returns. Thus, an accident of Sept. 7, 1841, is represented as a fatal accident, when no loss of life at all occurred, as is proved by the Board of Trade report of Sir Frederick Smith himself.

The commissioners contend, also, that accidents chiefly arise from causes independent of gage, while the Great Western assert that nearly all the causes assigned by the commissioners are dependent on gage. They say that slips in cuttings, subsidence of embankments, a defective state of permanent way, broken or loose chairs, will not produce the same effect on a carriage with a 7 feet base as on a carriage with a base of 4 feet 8½ inches. The commissioners are placed in a dilemma by maintaining the contrary, for they elsewhere admit that the engines and carriages at high speed run more steadily on the wide than on the narrow gage lines. Again, the Great Western claim that, having greater steadiness on their gage, there must be less cause for the fracture of wheels and axles; and indeed, no accident has ever arisen to them from a broken axle, and there was only one case of a broken wheel, when a tire of a new construction flew off. On the narrow gage lines, on the contrary, the breaking of axles of passenger carriages has been a common cause of accident. Engines have never run off the wide gage without any known obstruction, while ten cases of this have occurred on narrow gage lines; and therefore the Great Western, not without apparent reason, claim on this point a superiority for their gage.

With all the exertions of other Companies, we believe it is still the opinion of the public that the Great Western carriages are the more commodious. As to goods, the gage commissioners have given their award, on the ground of "smallness," to the narrow gage waggons. Messrs. Chaplin and Horne, and Messrs. Pickford, are the great carriers on the narrow gage lines, and their leading members, Messrs. Chaplin and Baxendale, have held narrow gage appointments as chairmen of the South Western and South Eastern lines, and the latter as goods traffic manager on the London and Birmingham. These firms naturally gave all the evidence they could against the wide gage system, and upheld the greater convenience of small carriages, though they admit the utility of larger waggons for certain purposes. If it were, indeed, desirable, the Great Western waggons could be made as small as the narrow gage, though the narrow gage waggons cannot be made as large as those on the wide gage. The Great Western Company, however, employ their own servants in lading and unlading their waggons, and they prefer the larger waggons, which are better for hops and wool, and are the only waggons adapted for the conveyance of large iron articles and castings from South Staffordshire. It so happens, too, that although the Great Western are increasing the size of their new waggons, and putting them on six wheels, with a view to convenience and safety, they yet have on hand and in use a number of the original small waggons, which are not larger or heavier than the narrow gage trucks.

Reverting, again, to the proposed limitations of speed, we are surprised that any one should propose a limitation where there is no real standard which can be applied. Thus it has been with regard to the amount of investments in railways; though no one can tell the true limit of capital applicable, there has been a strong desire to define a limit, in despite of the opinion of Sir Robert Peel and other competent authorities, that no correct decision can be arrived at. So, too, Sir Robert has been pressed to name a normal price for corn to guide the farmers on the passing of his bill; and so, too, Sir Frederick Smith, notwithstanding past failure, proposes to name a normal speed for express trains. With a progressive institution like railways—an institution, too, so clearly in its infancy—nothing can be less promising than the undertaking of a task like the one proposed, of defining the limits of engineering skill in this and all future years. To cap the absurdity, a sliding scale ought certainly to be appended, allowing infinitesimally for the progress of improvement in future years to avoid the necessity of revision. Twenty years ago George Stephenson proposed ten miles an hour; seven years ago the cry was twenty miles an hour; a little later at five and twenty; and we suppose now forty would be allowed by the most restrictive. Fifty miles can now be safely and economically attained, and there is a prospect not far distant of sixty miles. Whatever the limit may be of the "slow" school in 1856, it will most probably be some rate very horrible to the "s'ow" men of 1846 and 1836. In Nov. 1840, Sir Frederick Smith, then inspector general of railways, and lately a gage commissioner, proposed, as "essential on the score of safety," that luggage trains should be limited to eighty tons gross weight, and a speed of eighteen miles per hour.

What a twinge it must have given him to see, at page 7 of his gage report, a reference to luggage trains, sometimes comprising one hundred waggons!

The reason with the commissioners for proposing a restriction of speed is because* they think "they ought not to lose sight of the fact, that since the introduction of express trains, the accidents arising from engines running off the line have been much more common than in former years." This might, perhaps, be a reason for limiting the speed of express trains on narrow gage lines, but it is no reason for limiting the speed on the wide gage lines, as no such accident as an engine running off the line has occurred on the wide gage. Were the gage commissioners the dispensers of judgment, the wide gage would be condemned, not on their own demerits, but on those of their antagonists. It is worse than the fable of the wolf and the lamb, because the lamb is to be condemned and punished on the evidence of the faults of the wolf. The gist of the Great Western case, indeed, lies not in its deficiencies, but in the deficiencies of its antagonists.

The history of the communication with Exeter is, perhaps, one of the best commentaries on the proposal of limitation of speed. The distance between London and Exeter by the broad gage is $193\frac{1}{2}$ miles, and when the quick trains were first started, the time fixed was five hours, which appeared to be as great a speed as was consistent with certainty and regularity of arrival.† After a few months' practice, it was found, without any change in the engines or loads, but merely by the result of experience in all engaged, that the time could be much reduced. Without sensibly increasing the maximum speed, the trains were worked through the winter in $4\frac{1}{2}$ hours. In consequence of the injunction obtained against the Great Western Company, compelling the train to be stopped for ten minutes for refreshment at Swindon, it was found after trial that the train could still be worked through in $4\frac{1}{2}$ hours, of which ten minutes stoppage at Swindon and five minutes at Bristol. Without increasing the maximum speed, but by employing more powerful engines, capable of maintaining the maximum speed throughout the journey, it can now be done in four hours. The distance, including stoppages, has already been done in 221 minutes, or less than three hours and three quarters, so that the punctual performance of the journey in four hours is strongly guaranteed.

The gradual step from four hours to three hours and three quarters, and so to three hours and a half, may be anticipated; but we are unwilling to anticipate what lies beyond. Formerly by coach a day was considered a quick journey; by railway in ten hours was an appreciable improvement, but the advance to four hours conferred immense advantages on the travelling portion of the community. By coach a visit to the metropolis was virtually a three day's expedition in the journey, stay and return, besides great fatigue, from which the traveller suffered on his return. A ten hours' transit, although diminishing the inconvenience and delay, was still attended by the evil of keeping the

* *Report of the Gage Commissioners.* P. 13.

† *Observations on the Report of the Gage Commissioners.* P. 22.

traveller away from home at unreasonable times ; but a passage of four hours allows of a departure at eight in the morning, a stay of four hours, and the return by eight in the evening, without serious fatigue, and with a diminution on the former expense. Leaving out of the question the very important national consideration of the saving of labour, the advantages are obvious. The banker, who wishes to bring his London resources to bear on a sudden emergency ; the agent, who requires communication with his principal ; the professional man, the merchant or shopkeeper, who has urgent business in the metropolis, but can with difficulty break in on the daily routine of his avocations, must profit largely from accommodation so well suited to the urgency of his circumstances, and the value of his time.

As involving the communication with the West of England, the importance of increasing the rapidity of the transit to Exeter will be felt as much by those who travel as by those who do not. The mining districts of the west are placed under peculiar circumstances. They have to draw their capital from London ; but mining investment is far from being a favourite, for the difficulties of intercourse prevent the shareholder from conveniently visiting his property, and give every facility for fraud in the London agents and in the Cornish managers. To the large population in the west, dependent for support on mining operations, facility of intercourse will be attended with incalculable advantages in raising the character of mining as an investment, and offering an encouragement for the introduction of a larger class of capitalists. Thus those who never travel, but spend most of their time at the bottom of the shafts, will profit by the economies effected by the Great Western.

A one-sided reason for wounding the wide gage by bringing it down to the level of the narrow gage, is to be found in the report of the commissioners, wherein they state the "narrow gage engine appears to be as powerful as it can well be made." This we doubt, for we believe that the genius of Robert Stephenson can and will increase its power ; but the application of restriction to the broad gage tallies ill with the acknowledgment that "the broad gage lines have still the means of increasing that power." The commissioners, however, think it necessary to add a proviso that "the road be in a condition to sustain the increased force of the heavier engine, moving at higher velocities." There is at the present moment no deficiency in the road of the Great Western, and there is no limitation at present to the increase of the weight of the rails should the public service require it.

The gage commissioners wind up their report by a recommendation that the wide gage lines shall be reduced to 4 feet 8½ inches, that the lines in progress of construction shall be made on the narrow gage, and that the narrow gage shall be established as the exclusive gage.

The Board of Trade, with more prudence, propose to wait for the results of the working of the wide gage system in this country, in Ireland, and on the continent, and in the meanwhile assign to the Great Western a large district for the extension of their own system; adopting the narrow gage beyond. The wide gage district includes all the west and south of England, beyond the South Western, Gloucestershire, Worcestershire, Staffordshire, and South Wales.

For our own parts, we see no occasion for any decision at all ; we

think it would have been better for both parties to have been left alone to fight it out ; but if any decision was to be come to, that of the Board of Trade seems to be more consistent with equity than any other.

INDIAN RAILWAYS.

The Calcutta Review. No. XI. March, 1846. Calcutta: Messrs. Thacker. London: Messrs. Smith and Elder.

THE last number of the *Calcutta Review* brought to us by the Overland Mail, contains an article on the Bengal Railways, peculiarly deserving of attention. The tendency of this article is evidently in favour of Mr. Macdonald Stephenson's Company, but it does not seem to be written with that end, or in a partisan spirit. To the plan of the Great Western Railway Company of Bengal the writer seems hostile, though he professes himself to be actuated by no unfriendly feelings. He thus describes the Company :—

“ The next Company which we have to notice is the Great Western Railway Company of Bengal. The first announcement of it to the public was made in London, where, as in India, it has been generally regarded, and truly we suppose, as in opposition to the East Indian : a circumstance which would appear necessarily to involve either its dissolution or an indefinite postponement of its objects, if the railway commission recommends and the government decides in favour of the Grand Trunk line in the first instance. For several lines requiring very large remittances of capital to this country to be undertaken at once we regard as most impolitic, if not impracticable.

“ The proposed capital of this Company is four millions : its line to go to Rajmahal, with an extension or branch to the great commercial town of Patna. Many years ago a canal from Rajmahal to Calcutta was proposed by Colonel Forbes, an eminent engineer officer, who ascertained the levels, and projected the details. The construction of it was authorised by the Court of Directors, but prevented by the Affghan war, which exclusively occupied the attention of government, and exhausted the funds set apart for the purpose. On the restoration, however, of peace, after the Gwalior campaign, Lord Ellenborough, as himself declared, sent to the Board of Control a strong recommendation of the canal, and probably it would have been commenced, but the plan of the East Indian Railway Company appeared at this period. The idea of a railroad to Rajmahal was merely an accidental transition from the previous design of a canal, and led to the formation of the Great Western Railroad Company. In justice to this Company it must be admitted that it would accomplish all the objects of the canal. On the eastern side of the Ganges from Patna downwards and along the Bhagirathi, the country is a rich alluvial soil, the proprietors of which carry on the cultivation of indigo and sugar, chiefly with capital advanced by the banks, and merchants, and agents of Calcutta. The

produce is abundant and of great value, and much or most of it is brought down by native craft on the Ganges, Jellinghi, and Bhagirathi, the navigation of which rivers is at all times, from causes varying with the seasons, tedious and difficult, and often dangerous. The passage of cargo boats takes between twenty and thirty days from Rajmahal to Calcutta. The losses are great, and the insurance as high as from England. To supersede the river navigation, or take its place, is the object of the Great Western : as it would be eminently useful to the capitalists of Calcutta, it is popular with them. This point of view, however, is not a comprehensive one. It includes the consideration of commercial traffic alone, and has no reference to the wants of government, nor to the principles on which Grand Trunk lines are now constructed in England. The road would have the river parallel with part of its course, and in direct competition with it. It would be the railroad *versus* the river : a struggle between two giants, and the railroad might beat and the local commerce be materially benefitted. But this result would be accomplished at a sacrifice ; those measures for the improvement of the navigation, which policy and interest have long ago dictated and modern engineering science is prepared to carry out, would be further postponed, or finally prevented, and it would be prejudicial to the success of the Grand Trunk line, for which the Great Western scheme is not adapted. Besides, the objects of this Company may in a great degree be accomplished by branches to the Grand Trunk line, if that is first constructed."

We cannot say we coincide with the writer as to the difficulty of a railway competing with the river, or as to the evils which would accrue from it. The value of the river communication has been graphically described by the Calcutta reviewer. He sums it up when he says the passage of cargo boats on the Ganges takes between twenty and thirty days from Rajmahal to Calcutta, with losses which are great, and a rate of insurance as high as from Calcutta to England. It appears to us like the case of the Seine and the Paris and Rouen Railway, and it will and ought to be decided in the same manner. The views of the writer seem to us to be Indian views, rather than European views, and wanting in that technical experience on railway subjects which we have here, but which has yet to be learned in Calcutta. Resuming his investigation of the Great Western Railway of Bengal, we find him enforcing the same views in a more extended manner :—

"The objections, as we conceive, arise chiefly by comparison. If there was no Ganges, or its navigation was not capable of improvement ; if only those who are interested in the rich products of its valley needed railway communication ; if a great military highway to the upper provinces, and a good base for a system of railways were not needed by the country and government ; if no other and preferable line could be selected for these purposes, the objections to the Great Western line would be insignificant. But there is a Ganges ; it is in the power of modern art and science, which has never been applied to it, to improve its navigation ; and a system of railways as a base for which it is not suited is needed, and British power can scarcely be deemed secure without improved communications with Upper India. Such are the objections to the Great Western."

To the Northern and Eastern Railway Company our Indian contemporary is still more opposed, and he indeed seems inclined to merge it in the Great Western. He says—

“And this leads us to notice next the Northern and Eastern Railway Company, the last in the field, and a competitor for part of the Great Western line. All the objects, as appears to us, of the Northern and Eastern are, or may be, comprised in the larger views of the Great Western Company.

“At a distance by land of about 150 miles from Calcutta, at or about a place called Bogwangolah, the Bhagirathi, a minor stream, runs from the great Ganges, and uniting at Nuddiya, with the Jellinghi, another minor stream, constitutes the Hooghly, on the left bank of which Calcutta is situated; and this is the most direct river route for the traffic to and from the valley of the Ganges. But for three or four months of the year, owing to its shallowness, the passage is slow and difficult; and all the steamers, and much of the other traffic, have to proceed along the Ganges nearly to its embouchure at the sea, and thence back or up the Hooghly to Calcutta, a circuit of nearly 500 miles. Nor is this all. When these streams are full, and consequently navigable with ease downwards, the force of the currents makes it a very difficult passage upwards. Hence it appears, that the Northern and Eastern plants its railroad just at the point where the defects of the navigation are most severely felt, and their consequences begin to be very aggravated.

“Such is the relation which this Company bears to the general commerce of Calcutta and to its rival the Great Western. It exhibits in its office on the common map of Bengal, two lines, one by a piece of black tape, purporting to represent the East Indian or Mirzapore line, the other by red tape, its own, diverging at considerable angles from the proposed terminus of both, Calcutta. Doubtless, it wishes not to appear in collision with the East Indian Railway Company. But if, as is probable, the railway commission recommends that the Grand Trunk line should go up the left bank of the Hooghly, the northern and eastern will have to undergo a modification; for government will scarcely sanction two parallel independent and contiguous lines: and probably it will have to alter its plan as it respects its upper terminus, as the course of the river hereabouts is so uncertain that one year the Company might find itself, rails and godowns, in the bed of the river, another year some miles distant from the channel where the craft would have to unship their cargoes.”

With regard to the latter objection, we do not profess to be able to offer an opinion. A railway station, with a notice “apply in the river Hooghly,” is not a pleasant prospect, but it may be on a par with Punch’s system of tiger surveying in India. We must leave to the Indo-English and to the engineers in India to settle these points among themselves, and we hope the resources of science will not be found inadequate to meet any difficulty of situation. Certainly the evil appears less to us than to our Indian adviser; for although the bed of the river may be shifting, it appears to us that the main line may be kept out of the reach of inundation, and communication may be effected with the craft in the river by lines of rails laid down temporarily.

Objections are also raised to the constitution of the local board of the Northern and Eastern Railway Company. Referring to the necessity of London management, it is said :—

“ In one of the Companies whose scheme is before us, there seems to be a departure from these principles. If we were asked our opinion beforehand, we should say that a pompous array of presidents, vice-presidents, chairmen, princes, and rajahs, would inspire our distrust as utterly alien to the principle of responsible and economical management. In the Company to which we refer, the Calcutta Board is more numerous than the London, is evidently meant to have original powers, and not to be accountable. It would be impossible to prescribe to such a list the duty of agents or servants. It consists of a singular mixture of natives, lawyers, and merchants. Perhaps the variety is supposed to realize the principle of representation. We think it does not, but the principle itself is inapplicable. Nor is it such a selection as would be made by any prudent person or body of persons, having proprietary interests, and caring only for the profit to be derived from the intended operations. With the most perfect respect we say it—that princes and rajahs are mere cyphers in a direction. It is no disparagement of them to say, that one good banian, who is also an honest and respectable man, would be worth dozens of them. As for the lawyers—to be directors of banks and trading companies is not within their proper province ; nor in England are they ever seen in such a situation. They have a monopoly of their own proper function : and it is of a high and honourable nature, and might well satisfy the pride and ambition of the most high-minded men. But the great objection, in a public point of view, is that they lose their proper utility, and unfit themselves for the service which society needs from them, by taking part in trading associations. A character—such at least as they ought alone to value—for skill and judgment in commerce they cannot acquire, but they may lose the noble characteristics which all over the world ought to be, and in England are, their just distinction.

“ The subject of management includes the question, how far it should be subjected to interference on the part of Government. We have hinted, in another part of this article, our opinion that the management of trading Companies does not belong to the Executive Government. This also was the opinion of the Select Committee of the House. Its report says :—

“ ‘ The committee entered upon their inquiries with a strong prepossession against any general interference by the Government in the management and working of railways, and they have not seen cause to alter their first impressions upon that subject. But with regard to railway legislation, they are convinced that it is alike clear from reasoning and from experience, that it should henceforward be subjected to an habitual and effective supervision on the part of the Government.’

“ We are not aware of any circumstances which require Indian railways to be an exception. The only rational pretence for it which we can conceive would be that it is necessary for the protection of its own or the public interests. Such a necessity appears to us not to exist, nor to be capable of being colourably proved by any argument. As to its own interest, first, we should say, let it ascertain what are its proper interests in any proposed railway : define and declare them : let such as cannot

be sufficiently protected by contract, be protected by legislative enactment; make a law for their establishment, and at the same time a judicial tribunal which will protect the rights given to it by the legislature, as well as those of all other persons. This is essential. The least possible meddling, or no meddling at all, on the part of Government, may then be safely assumed as a leading principle. Government may have, without violating these principles, and it has, a special commission to assist it in railway legislation. It may appoint a police to prevent accidents, to prosecute and punish negligence: but let it not go into the railway office, as it does into the bank parlour, to control the details of the Company's operations.

We assume that the advantages of grand trunk lines are such, as, on general principles, to entitle them to priority of construction, and put all others for a time comparatively into the shade. Still we may remark that great caution will be necessary on the part of the legislature and Government. In the schemes before the public we can detect haste, and all the errors usually in the train of an excited spirit of speculation. The general railway Act of Parliament limits deposits until final registration to 10s. per cent. or 10s. upon a £100 share. Accordingly we find the deposit of the East Indian Railway Company 5s. But in the headlong haste with which several have followed their leader, this regulation has been overlooked or disregarded: there are shares of £40 upon which 5s. is called for; others of £20 on which 7s. and 4s. are called for; and one is advertised to receive £2 10s.—on its £50 shares. The same diversity appears in the amount of their capital. Some of them also combine other objects with the proper business of a railway Company. One intimates an intention to have its own steamers, if those existing are insufficient to bring to it the traffic of the Ganges. This is a scheme for knocking down railway profits, by embarking in a different kind of trade which yields no profit; for it is quite certain that the steam companies will take all the traffic which they can bring at a profit."

The Calcutta and Diamond Harbour plan is received in a manner still less hopeful. Whatever may be the faults of the reviewer, he is certainly not over-sanguine, and he allows for no prospective traffic on this line. He describes it as a railway from London to Gravesend without the advantage of any considerable number of passengers, and with the interests of the St. Katherine's and London Dock Companies opposed to it. He should, however, in justice to the Diamond Harbour Company, have alluded to the favourable results which have accrued from the establishment elsewhere of new ports in eligible situations and with competent railway communication. Much good has certainly resulted from the improvement in this respect of Southampton, Birkenhead, Folkestone, Fleetwood, and Middlesborough, and it is scarcely fair to measure the Diamond Harbour plan by the narrow standard so unfavourably applied in the following remarks:—

"Diamond Harbour, is a part of the river about half-way between the Sandheads or sea and Calcutta. Above it is the very dangerous shoal of the James and Mary, where many valuable ships have been stranded and injured. To enable the shipping to avoid this peril, and to stop short in a very dangerous river navigation, is the object of this Com-

pany. It is only the larger ships and more valuable and less bulky cargoes, and those which take steam and go insured, which probably will use the railroad. They will effect a saving of about half per cent. in insurance, and perhaps one day's steaming, but this is doubtful. Probably the cost of conveyance by railroad and the incidental charges of the merchant, will exceed this saving."

We are glad to see that the Calcutta reviewer is decidedly opposed to the interference of the Indian government in railway management. He thinks it has enough on its hands already. We think so too; but we are also disposed to believe that there is no body, not even the home government, more incompetent for railway management than the government of India. We are the more confirmed in this opinion by an article to be found in another part of the *Calcutta Review*, at p. 137, which describes the manner in which the canals and irrigation works of India are bungled. Indeed, whether we look at the experience of government management generally, or the peculiar qualities of the members of the Indian government, who will bear a favourable comparison with any government in the world, we cannot admit that it is wise to give up the principle of private enterprise in the case of the government of India.

Enforcing the value of Mr. Macdonald Stephenson's plan, and of railways generally, it is well observed :—

"To estimate their value and importance aright, regard must be had to the peculiar state of the country. Of the difficulties of the navigation of the Ganges and minor rivers we have already spoken. Much, if not most, of the merchandise to and from the upper provinces is taken by water; the saving of time which the railroad would effect, would multiply the merchants' capital and be a saving of money. Where it takes three months now, it will take only as many days, to bring distant consignments to market, and the same capital, consequently, which at present can be returned only three or four times a year, may be returned probably twenty. A railroad will operate in the same manner in increasing the effective strength of the army by saving the time employed in marches. In the annual relief, infantry regiments are often removed from one end of India to the other, at an average number of ten miles and a half per day, halting six days in the month, so that it takes about six weeks to move from this presidency to Benares. Hence arises the necessity of the concentration at all times of a large force in the neighbourhood of an enemy. There are not the means existing of concentrating troops on a sudden emergency. This was strikingly exemplified in various ways on occasion of the recent war on the north-west frontier. When it broke out, all officers whose regiments were in the field, were ordered to join the army. About one hundred, we believe, in the different services—engineers, artillery, infantry and medical—required to go from this presidency. They were sent at the public expense, and with the greatest despatch. How many do our readers suppose the Post Master General was able to send daily? Three!—and as the journey took sixteen days travelling night and day, few arrived before the war was over. Even this could not have been accomplished at any other period of the year.

"Under the order, now countermanded, for the establishment of

depôts, the regiments stationed in the presidency division were ordered to supply about 600 men to the depôt, intended to be formed at Benares. The utmost despatch was desired by government ; bullock hackeries, the only kind of carriage ever available here, were put in requisition in the usual manner : but the garrîwâns had taken alarm at the rumour, industriously and perhaps maliciously circulated, that they were to go to the seat of war. They were consequently obtained with difficulty. Many ran away, and from these causes several days were lost before the march could commence, and a halt of some days more became necessary at the end of the first day's journey. Is this a predicament proper for the Government to be placed in, within a few miles of a great political and commercial capital. Is it just to the great interests involved in the stability of British power, that the movement of troops should depend on native opinion, or on the caprice of the drivers or owners of bullock hackeries ?

"The chief magazine for the supply of military stores for the forces employed in the lower and upper provinces is, and must be, at Fort William for a century to come. No where else can the vast munitions of war required on occasion of hostilities be safely deposited. Their safety is itself a cause of strength, in the impression which the knowledge of it makes on the natives of India. But their use depends on their transport, which though more easily accomplished by water than the transport of troops, could be effected with incomparatively superior advantages by a railroad. The magazines of Allahabad, Cawnpore, Agra, and Delhi, from which a great part of the Bengal army is supplied, receive all their stores from Calcutta : those of Ajmîr, Ferozepore, and Saugor, are also chiefly supplied from this presidency."

The poverty of resources developed in this practical description seems to us to enforce very strongly the necessity and profitableness of establishing railways in India. The field is, as it were, untilled ; while we are convinced, from the investigation of Mr. Stephenson's data, and the facts accumulated by him, that there is traffic enough to justify any legitimate amount of railway enterprise. Mr. Macdonald Stephenson has proceeded slowly, cautiously, and wisely ; he has prepared his way carefully ; and all who have investigated his statements, his opinions, and his measures, have fully confirmed their soundness and propriety.

Before concluding these remarks on a subject so important as that of railways in India, we may observe, that railways in their practical working will be found more conducive to the comfort of the Indian traveller than even a state of rest. The strong currents of air caused by the rapid motion of a railway train is even in this country refreshing to the traveller in warm weather, and artificial means will probably, in time, be resorted to to make these currents available for the ventilation of railway carriages in India. As at high rates of speed currents can be obtained of such velocity as are beyond the means of ordinary ventilation in India by punkahs or fans, so it may become a matter of luxury to make an excursion in a railway train even in the hottest seasons, to enjoy the refreshing breezes of the moving atmosphere. At all events, the period of tra-

elling being abridged to the fourth or the fifth, the discomfort of the traveller must be so far shortened, while the dependence upon human and animal means of conveyance will be diminished.

THE LEVIATHAN LOCOMOTIVE "GREAT WESTERN."

THE performance of the Great Western leviathan locomotive on the 3th June, 1846, was not inaptly called by the chairman of the Company "a great fact." It is a great fact, for the journey between London and Bristol to be done in two hours and a half, and between London and Exeter in four hours, and this not with a view to the sole accommodation of the wealthier members of the community, but brought within the means of second class passengers. The accommodation of the mass must ever be looked to in railway travelling as the great essential, though the special accommodation of the select few who can pay a high price is not to be neglected. To the class of through passengers the new system of the Great Western will afford a degree of convenience, which has not yet been offered by any Company. The passengers from Exeter, Bristol, Gloucester, Cheltenham, and Oxford, the largest and most moving towns on the line, will have the benefit of the most rapid transit.

As a matter of course the same accommodation on the new system, cannot be extended to the local traffic as to the through traffic on account of the time lost in stoppages, but then the through traffic is the more important. It would of course be a great accommodation to Pangbourne and to Maidenhead to give them the same speed as to Bristol and Exeter; but the interests of Pangbourne or Maidenhead are not so important, nor is the class of traffic of that urgency.

To the great commercial cities it is most important to get quick communication with each other; and to places at a distance it is of particular value to have the time of travelling brought within such compass, that journey and the return may be accomplished within a working day, and allowing six or seven hours for transacting business at either terminus.

In working express trains they must necessarily be so arranged as to present the fewest possible stoppages, but this does not prevent a system of trains being so organized as to accommodate the chief towns on the line. While one set works to Oxford, Gloucester, Bristol, Taunton and Exeter, another may work to Slough, Reading, and Bath, but the attempt must not be made to work too many stations with the same express train. One argument in particular is to be urged for this, which is that in order to the proper development of traffic from each place, express trains should work as frequently as possible, while the object of an express train would be defeated by frequent stoppages on the road.

The 13th of June was fixed upon for the experimental trip, and a very large party assembled at Paddington for the occasion; the directors

of the Great Western Railway Company, having, with the view of obtaining the greatest possible publicity, invited the attendance of a numerous body of men of science and members of the press. The journey was timed expressly for the *Railway Register*, by Mr. Francis Whishaw, C.E., the author of the work on the *Railways of Great Britain*, and Mr. Hyde Clarke, C.E., the former being an advocate for uniformity of gage, and the latter for the broad gage; so that the observations were impartially taken, while they were made with as much care and accuracy as such a rapid execution allowed.

The Great Western locomotive was built at Swindon factory, under the personal superintendence of Mr. Daniel Gooch, C.E., superintendent of locomotives to the Company. The dimensions are understood to be—

Diameter of driving wheels	-	-	-	8 feet.
„ cylinders	-	-	-	18 inches.
Length of stroke	-	-	-	24 inches.
Length of boiler	-	-	-	10 ft. 6 in.
Heating surface of the fire box	-	-	-	166 square feet.
Net weight of engine	-	-	-	29 tons.
„ tender empty	-	-	-	7 tons.
Weight of engine and tender with fuel and water	-	-	-	44 tons.

In the end of May the Great Western was tried with a train of 14 carriages, laden with iron, and made up to 140 tons, exclusive of engine and tender, coke and water, making 44 tons more. She was then driven from Paddington to Swindon and back, 77 miles each way, and found capable of an average speed of 55 miles an hour, with that heavy load.

On the 1st of June she was first sent down with the quarter to ten morning express train from Paddington to Exeter, 193 $\frac{1}{4}$ miles, which journey was performed in 208 minutes (3 hours, 28 minutes,) exclusive of stoppages, the average rate being 55 $\frac{1}{4}$ miles per hour. The return journey was performed in 211 minutes, being 3 minutes less, or 3 hours 31 minutes.

On the 13th of June, the train consisted of 10 carriages; three filled with passengers, and seven made up with iron, so as to constitute a load of between 100 and 110 tons, exclusive of the engine, tender, coke, and water. She was driven by Mr. Daniel Gooch, both on her down journey and her return, and the task was a most arduous one.

The time of starting from Paddington, from the time when the carriages first began to move was 11 hours, 50.8 minutes, though other parties make it 11 hours 51.8 minutes, both agreeing in the time of passing the first mile post.

At the 23rd mile-post, and so on to the 31st, the numbers were found painted out, so that no observation could be made. Twyford was passed at 25 minutes past 12. From the 11th mile to the 23rd, the speed varied from 60 to 66 miles per hour. Eleven miles were done in 10 $\frac{1}{2}$ minutes, and that speed was kept up past some of the blank mile-posts. From the 31st mile-post to Didcot the speed slackened to a range of from 52 to 57 miles per hour.

Didcot was reached at 12 hours 50 minutes, the 53 miles having been

done in $59\frac{1}{2}$ minutes. On the 1st of June the distance was done in 55 minutes, but on the 13th the feed pumps were out of order, and for a time Slough ceased to work near the 31st mile-post, where the speed slackened; consequently a distance which might have been done $19\frac{1}{2}$ minutes required $21\frac{1}{2}$ minutes. The engineman, being fearful of his pumps, had started with the water in the tank nearly cold, so that when the pumps were got to work again they threw quickly into the boiler a large current of nearly cold water, which tended much to retard the speed.

At Didcot the stoppage was 4.95 minutes, though according to another account it was $5\frac{1}{4}$ minutes.

The distance to Swindon, 24 miles, was done in 28 minutes, the speed being generally between 54 and 57 miles per hour up a gradient of 8 feet in the mile. The stoppage at Swindon was 4.9 minutes.

On leaving Swindon a high speed was soon reached, which was well maintained to the box tunnel, the gradients being—

80 to 85 miles	.....	1 in 660 falling
$85\frac{1}{2}$ to $86\frac{1}{2}$ "	.....	1 in 100 "
$86\frac{1}{2}$ to $90\frac{1}{2}$ "	.....	1 in 660 "
$90\frac{1}{2}$ to 92 "	.....	1 in 660 rise

The speed rose from 63 miles to about 70, which was maintained in the 87, 88, and 89 miles. Our observations show an average of 68 miles; the *Morning Herald* reporter observed a maximum of $70\frac{1}{2}$ miles; Mr. J. D'A. Samuda, C.E., 70 miles; and an observer for the narrow gage $69\frac{1}{2}$ miles per hour. Accuracy cannot, of course, be obtained; but the average speed of the 5 miles gives 68 miles, and the ordinary variation on such an average will give a range of near 70 miles an hour.

The Box tunnel, at which the steam was shut off, which is on a fall of 1 in 100, was gone through at a high speed, the time from the 98th mile to the 101st being $3\frac{1}{2}$ minutes, or 52 miles per hour. On approaching Bath station it became necessary to slacken the speed, the curves being very sharp, and the speed accordingly fell to 35 miles an hour.

The time of arrival at Bristol was 2 hours 17 minutes, making the whole journey of $118\frac{1}{2}$ miles in 146.2 minutes, whereof stoppages 9.85 minutes, leaving a net time of 136.35 minutes, being an average gross speed of 49 miles an hour, and a net speed of 52 miles per hour.

The following table shows the time occupied in the journey from Paddington to Bristol, the first column being the time as observed by Mr. Whishaw and Mr. Hyde Clarke; the second the time furnished by the Company, and published in the *Times* and *Morning Chronicle*; the third the time in passing over each mile calculated on No. 1; the fourth the time in minutes in passing over each mile calculated on No. 2; the fifth the time in minutes observed by the Company, and communicated to us by Mr. Daniel Gooch, C.E., superintendent of locomotives to the Great Western Railway Company; the sixth the average rate per mile per hour deduced from the three observations.

The times as given in the newspapers, showing some typographical errors in the adjustment of the times to the miles, have been collated. It would appear, from the extreme regularity of several consecutive miles, that a considerable number are merely calculated, and are not

the result of observation, while all those in No. 1 column are observed times :—

Miles.	1.		2.		3.	4.	5.	6.
	Hours.	Min.	Hours.	Min.	Time. Min.	Time. Min.	Time. Min.	Rate per hour, miles.
Start.	11	50.80	11	51.80				
1	11	54.00	11	54.40	3.20	2.20	2.45	
2	11	55.35	11	55.42	1.35	1.42	1.50	44
3	11	56.60	11	56.50	1.25	1.18	1.22	50
4	11	57.95	11	57.75	1.30	1.15	1.12	48
5	11	59.00	11	58.80	1.00	1.05	1.06	57
6	11	59.90	11	59.90	0.90	1.10	1.03	
7	12	0.90	12	0.90	1.00	1.00	—	60
8	12	2.10	12	1.95	1.20	1.05	—	
9	12	3.00	12	2.95	0.90	1.00	1.01	57
10	12	3.90	12	3.95	0.90	1.00	1.01	57
11	12	4.95	12	4.95	1.05	1.00	1.00	60
12	12	5.90	12	5.95	0.95	1.00	0.99	60
13	12	6.95	12	6.95	1.05	1.00	0.97	60
14	12	7.95	12	7.95	1.00	1.00	0.96	60
15	12	8.90	12	8.90	0.95	0.95	0.97	63
16	12	9.90	12	9.90	1.00	1.00	0.97	60
17	12	10.85	12	10.80	0.95	0.90	0.97	66
18	12	11.75	12	11.75	0.90	0.95	0.99	63
19	12	12.75	12	12.75	1.00	1.00	0.99	60
20	12	13.65	12	13.75	0.90	1.00	1.00	63
21	12	14.65	12	14.75	1.00	1.00	1.01	60
22	12	15.70	12	15.75	1.05	1.00	1.03	60
23			12	16.75		1.00	1.00	60
24							1.00	60
25							1.05	57
26							1.00	
27							1.00	
28							1.00	
29							0.97	
30							0.97	62
31							1.04	57
32	12	26.25	12	26		1.10	1.10	54
33	12	27.25	12	27.20	1.00	1.20	1.16	51
34	12	28.50	12	28.30	1.25	1.10	1.12	
35	12	29.50	12	29.38	1.00	1.08	1.01	51
36	12	30.60	12	30.45	1.10	1.07	1.10	54
37	12	31.55	12	31.55	0.95	0.10	1.06	
38	12	32.60	12	32.60	1.05	1.05	1.10	57
39	12	33.95	12	33.70	1.35	1.10	1.10	
40	12	34.95	12	34.80	1.00	1.10	1.11	
41	12	36.10	12	35.95	1.15	1.15	1.12	52
42			12	37.05	1.03	1.10	1.12	57
43			12	38.15	1.03	1.10	1.11	57
44	12	39.20	12	39.25	1.03	1.10	1.10	57
45	12	40.20	12	40.35	1.00	1.10	1.10	

Mile posts painted out.

THE LEVIATHAN LOCOMOTIVE "GREAT WESTERN."

Miles.	Hours.	Min.	Hours.	Min.	Time. Min.	Time. Min.	Time. Min.	Rate per hour, miles.
46	12	41.30	12	41.45	1.10	1.10	1.10	54
47	12	42.50	12	42.55	1.20	1.10	1.10	
48			12	43.70	1.12	1.15	1.10	53
49	12	44.75	12	44.70	1.12	1.00	1.15	
50	12	45.65	12	45.90	0.90	1.20	1.15	
51			12	47.07		1.17	1.16	
52	12	48.00	12	48.20	1.17	1.13	1.16	
53	12	50.00	12	50.15	2.	1.95	2.10	
Stoppage at Didcot.								
54	12	58.00	12	58.25			2.08	
55	12	59.35	12	59.65	1.35	1.40	1.38	43
56	1	0.50	1	0.95	1.15	1.30	1.20	50
57	1	1.50	1	2.05	1.00	1.10	1.16	57
58			1	3.15	1.25	1.20	1.12	50
59	1	4.	1	4.25	1.25	1.10	1.12	50
60	1	4.95	1	5.35	0.95	1.10	1.11	
61			1	6.45	1.13	1.10	1.11	54
62			1	7.55	1.13	1.10	1.12	54
63			1	8.70	1.13	1.05	1.12	
64			1	9.75	1.13	1.15	1.12	52
65	1	10.60	1	10.95	1.13	1.20	1.12	52
66			1	12	1.10	1.05	1.12	56
67			1	13.10	1.10	1.10	1.10	56
68			1	14.25	1.10	1.15	1.08	56
69			1	15.30	1.10	1.05	1.06	57
70	1	16.10	1	16.35	1.10	1.05	1.08	57
71			1	17.45	1.13	1.10	1.06	54
72			1	18.55	1.13	1.10	1.08	54
73			1	19.60	1.13	1.05	1.08	54
74			1	20.70	1.13	1.10	1.10	54
75	1	21.75	1	21.85	1.13	1.15	1.12	52
76			1	22.95		1.10	1.12	
77	1	24.60	1	24.60		1.65	2.01	
Stoppage at Swindon.								
78	1	32.00	1	32.25			3.00	
79	1	33.45	1	33.55	1.45	1.30	1.35	44
80	1	34.50	1	34.70	1.05	1.15	1.15	54
81			1	35.75	0.92	1.05	1.03	
82			1	36.70	0.92	0.95	0.97	63
83			1	37.65	0.92	0.95	0.94	63
84			1	38.60	0.92	0.95	0.94	63
85	1	39.10	1	39.14	0.92	0.54	0.90	
86			1	40.40	0.88	1.26	0.92	
87			1	41.25	0.88	0.85	0.95	70
88			1	42.20	0.88	0.95	0.88	70
89			1	43.05	0.88	0.85	0.88	70
90	1	43.50	1	43.95	0.88	0.90	0.92	66
91			1	44.95	0.92	1.00	0.93	63
92			1	45.85	0.92	0.90	0.97	66

RAILWAY REGISTER.

Miles.	Hours.	Min.	Hours.	Min.	Time. Min.	Time. Min.	Time. Min.	Rate per hour, miles.
93			1	46.80	0.92	0.95	0.99	64
94			1	47.80	0.92	1.00	1.02	63
95	1	48.10			0.92	1.10	1.06	56
96			1	50.00		1.10	1.06	56
97			1	51.05		1.05	1.06	56
98			1	52.10		1.05	1.06	56
99		Box Tunnel.						40
100								
101	1	55.00	1	55.60				
102			1	56.95	1.08	1.35	1.23	48
103			1	58.	1.08	1.05	1.16	57
104							1.06	
105	1	59.40	1	59.05	1.08	1.05	1.05	57
106	2	0.80	2	1.60	1.40	1.55	1.23	38
107	2	3.00	2	3.60	2.20	2.00	1.26	28
108	2	4.60	2	5.	1.60	1.40	1.25	40
109	2	5.90	2	6.45	1.30	1.45	1.20	43
110	2	6.98	2	7.50	1.98	1.05	1.11	57
111			2	8.55	1.02	1.05	1.03	58
112			2	9.90	1.00	1.35	1.01	62
113	2	10.00	2	10.50	1.00	0.70	0.99	61
114			2	11.50	1.00	0.90	0.98	59
115	2	12.00	2	12.50	1.00	1.00	1.02	60
116								
117	2	14.20	2	14.55				55
118	2	16.00	2	16.55				
118½	2	16.50						
118½	2	17.00						

The return journey from Bristol was commenced at 4 hours 0.5 minutes. Swindon was reached at 4 hours 52.5 minutes, the distance (41½ miles) being done in 52 minutes, which was heavy work, sharp curves occurring near Bath—then the Box tunnel, and ascending gradients to near Swindon. The time of reaching the beginning of the Box tunnel was 4 hours 24½ minutes, and the time of leaving 4 hours 27½ minutes, the passage occupying 3½ minutes. The stoppage at Swindon was 7 minutes.

The distance to Didcot (24 miles) was done in 28 minutes, being less than on the down journey. The stoppage at Didcot was 10½ minutes.

The distance from Didcot to Paddington (53 miles) was done in 59 minutes. The time of arrival at Paddington was 6 hours 37 minutes. The gross time of the journey was 157½ minutes (2 hours 37½ minutes), the net time 139 minutes.

The miles from Bristol to London are given in the following table:—

BRISTOL TO LONDON.

Miles.	hrs.	min.	seconds.	Time. per hour.	Rate	Miles.	hrs.	min.	seconds.	Time. per hour.	Rate
Bristol	4	0.50				71	5	8.05	60		60.00
118						70	5	9.05	61		59.01
117				218	16.51	69	5	10.00	59		61.00
116				88 $\frac{1}{2}$	40.70	68	5	11.20	59		61.01
115				88 $\frac{1}{2}$	40.70	67	5	12.30	59		61.01
114				73	49.31	66	5	13.05	59		61.01
113				68	52.94	65	5	14.00	60		60.00
112	4	9.90		65	55.38	64	5	15.05	58		62.06
111				63 $\frac{1}{2}$	56.69	63	5	16.00	58		62.06
110	4	12.00		63	57.14	62	5	17.05	58 $\frac{1}{2}$		61.54
109	4	13.00		62	58.06	61	5	17.95	58 $\frac{1}{2}$		61.54
108				61 $\frac{1}{2}$	58.53	60	5	19.00	58 $\frac{1}{2}$		61.54
107				68 $\frac{1}{2}$	52.55	59	5	20.00	59		61.01
106	4	17.45		110	32.72	58			60 $\frac{1}{2}$		59.50
105	4	18.80		110	32.72	57	5	22.00	62 $\frac{1}{2}$		57.60
104				76	47.36	56	5	23.00	63		57.14
103	4	21.50		71	50.70	55	5	24.00	65 $\frac{1}{2}$		54.96
102				65	55.38	54	5	25.25	67		53.73
101				70 $\frac{1}{2}$	51.06	53			139		25.89
100	4	24.25		93 $\frac{1}{2}$	38.60	52	5	40.50	108		33.33
99				93 $\frac{1}{2}$	38.60	51	5	42.00	91		39.56
98	4	27.75		91 $\frac{1}{2}$	39.34	50	5	43.20	75		48.00
97				71	50.70	49			68		52.94
96				63 $\frac{1}{2}$	56.69	48			64		56.25
95				60 $\frac{1}{2}$	59.50	47	5	46.25	62		58.06
94				58	62.06	46	5	48.70	61		59.01
93				57 $\frac{1}{2}$	62.80	45			60 $\frac{1}{2}$		59.50
92				56 $\frac{1}{2}$	63.71	44			60 $\frac{1}{2}$		59.50
91				57	63.15	43			62 $\frac{1}{2}$		57.60
90				59	61.01	42			62 $\frac{1}{2}$		57.60
89				61 $\frac{1}{2}$	58.53	41			61 $\frac{1}{2}$		58.53
88				63 $\frac{1}{2}$	56.69	40			61 $\frac{1}{2}$		58.53
87	4	39.90		64	56.25	39	5	54.40	61		59.01
86				67 $\frac{1}{2}$	53.33	38			62		58.06
85	4	42.10		78 $\frac{1}{2}$	45.86	37			64 $\frac{1}{2}$		55.81
84				71 $\frac{1}{2}$	50.47	36			66 $\frac{1}{2}$		54.13
83				71 $\frac{1}{2}$	50.47	35	5	58.95	68 $\frac{1}{2}$		52.94
82				70	51.42	34			68 $\frac{1}{2}$		52.55
81				70	51.42	33			69		52.17
80				70 $\frac{1}{2}$	51.06	32			69		52.17
79				70 $\frac{1}{2}$	51.06	31			65 $\frac{1}{2}$		54.96
78				70 $\frac{1}{2}$	51.06	30			65 $\frac{1}{2}$		54.96
77	4	52.50		139	25.89	29	6	3.50	65 $\frac{1}{2}$		54.96
76				171	21.05	28			65 $\frac{1}{2}$		54.96
75				73	49.31	27			63		57.14
74	4	5.00		67	53.73	26			66		54.55
73	5	6.00		62	58.06	25			65		55.38
72	5	9.05		62	58.06	24			63		57.14

TIME IN GETTING UP SPEED ON STARTING.

Mile.	Paddington. Min.	Didcot. Min.	Swindon. Min.
0	—	0.50	
$\frac{1}{4}$	2.20	0.50	0.70
$\frac{1}{2}$	0.50	0.45	0.60
1	0.50	0.50	0.20
$1\frac{1}{4}$	0.45	0.25	0.25
$1\frac{1}{2}$	0.45	0.40	0.45
$1\frac{3}{4}$	0.20	0.35	0.25
2	0.25	0.33	0.30
$2\frac{1}{4}$	0.40	0.22	0.28
$2\frac{1}{2}$	0.25	0.40	0.27
$2\frac{3}{4}$	0.20	0.20	0.20
3	0.40	0.35	0.30
$3\frac{1}{4}$	0.40	0.30	0.20
$3\frac{1}{2}$	0.10	0.20	0.15
$3\frac{3}{4}$	0.45	0.25	
4	0.40	0.25	
$4\frac{1}{4}$	0.15		
$4\frac{1}{2}$	0.35		
$4\frac{3}{4}$	0.15		
5	0.40		

The average time in doing each mile is shown below :—

Mile.	Paddington. Min.	Didcot. Min.	Swindon. Min.
1	3.20	1.95	1.50
2	1.35	1.33	1.25
3	1.25	1.17	1.05
4	1.35	1.00	1.05

Rates of Getting up Speed on Starting:—

Miles per hour.

Hour.	Paddington.	Didcot.	Swindon.
0		20	
$\frac{1}{4}$	27	30	
$\frac{1}{2}$	30	32	25
1	30	32	38
$1\frac{1}{4}$	31	40	66
$1\frac{1}{2}$	33	46	43
$1\frac{3}{4}$	46	40	43
2	68	44	54
$2\frac{1}{4}$	50	54	52
$2\frac{1}{2}$	50	49	54
$2\frac{3}{4}$	68	50	63
3	50	54	60
$3\frac{1}{4}$	38	46	60
$3\frac{1}{2}$	60	60	
$3\frac{3}{4}$	54	66	
4	40	60	

As the preceding table is by quarter miles, the following is by miles :—

Mile.	Paddington.	Didcot.	Swindon.
1	27 to 30	20 to 32	25 to 38
2	31 to 68	40 to 46	42 to 66
3	50 to 68	49 to 54	52 to 63
4	38 to 60	46 to 66	60

As the sharp curves near Bath are productive of considerable delay, quarter mile observations were made, which are tabulated below, in the same manner as for starting :—

SHARP CURVES NEAR BATH.

Miles.	hours.	min.	Time in	Average rate per mile.	
			passing.	1 observation.	2 observation.
			min.		
105	1	59.40			
106	2	0.80	1.40	43	
106 $\frac{3}{4}$	2	2.50	1.70	26	
107	2	3.00	0.50	30	
107 $\frac{1}{4}$	2	3.45	0.45	33	31
107 $\frac{1}{2}$	2	3.90	0.45	33	33
107 $\frac{3}{4}$	2	4.15	0.25	60	43
108	2	4.60	0.45	33	43
108 $\frac{1}{4}$	2	4.92	0.32	47	41
108 $\frac{1}{2}$	2	—	—	57	57
108 $\frac{3}{4}$	2	5.45	0.53	57	57
109	2	5.90	0.45	33	48
109 $\frac{1}{4}$	2	6.00	0.10	—	54
109 $\frac{1}{2}$	2	6.20	0.20	75	
109 $\frac{3}{4}$	2	—	0.40	38	50
110	2	6.98	0.38	39	38

As it is of interest to compare the results of the trips of the 1st of June and 13th of June, the following has been prepared :—

PERFORMANCE OF THE "GREAT WESTERN" ON THE 1ST OF JUNE AND 13TH JUNE, EXCLUSIVE OF STOPPAGES.

	Miles.	1st June.	13th June.
		Min.	Min.
Paddington to Didcot -	53	55	59.20
Didcot to Swindon -	24	30	29.65
Swindon to Bath -	29 $\frac{1}{4}$	33	33.
Bath to Bristol -	11 $\frac{1}{2}$	14	14.50
Bristol to Taunton -	44 $\frac{1}{4}$	45	
Taunton to Exeter -	30 $\frac{1}{4}$	37	
Exeter to Taunton -	30 $\frac{1}{4}$	34	
Taunton to Bristol -	44 $\frac{3}{4}$	45	
Bristol to Bath -	11 $\frac{1}{2}$	14	16.
Bath to Swindon -	29 $\frac{3}{4}$	34	36.
Swindon to Didcot -	24	26	28.
Didcot to Paddington -	53	59	59.

It appears that while the shortest time done, exclusive of stoppages, is 132 miles, by taking the shortest times in which each section has

been done, it might be reduced both ways. The time in working the heavy gradients and the Box Tunnel, between Swindon and Bristol, does not vary much either way, as it has been done in 47, 48, 47, and 52 minutes. The same, as far as materials for a decision are afforded, seems to be the case on the other section.

TIME IN MINUTES.

Miles.		1st.		13th.	
		Down.	Up.	Down.	Up.
53	Paddington and Didcot - -	55	59	59½	59
24	Didcot and Swindon - -	30	26	29½	28
41½	Swindon and Bristol - -	47	48	47	52
118½	Paddington and Bristol - -	132	133	136½	139

Mr. Gooch informed us that the cost of taking down the train did not exceed 10d. per mile, and which is thus made out: *—

	Per mile per train.
Coke - - - - -	4
Enginemen and fireman's wages - -	1.3
Cleaning and general charges - -	1.9
Repairs - - - - -	2.5
Total - - - - -	9.7d.

The load, it will be remembered, is upwards of 100 tons.

In the above calculation, the charge for repairs is not the actual charge, the engine being new; but the average obtained from other engines.

A chief reason with the Great Western and other managers for building large engines is, that the cost per train per mile does not increase in proportion. It is found that the coke does not increase in the same proportion; enginemen's wages are the same; cleaning and general charges nearly the same; while the charge for repairs is also stated not to increase in proportion. Out of 9.7d. per train 3d. are fixed charges; 2.5d. susceptible of very slight increase; and 4d. the only item on which a considerable increase can take place. The consumption of coke for the 237 miles was about 42lbs. per mile.

According to the statement of the officials, the blast was on for four hours and a quarter during the down and up journeys, and 1,298 cubic feet of water evaporated, the evaporation being equal to 305 cubic feet of water per hour. The area of the heating surface of the fire-box being about 166 feet, the evaporating power at the rate of 2 cubic feet of water per square of surface would be 332 cubic feet, and the engine was considered as working 27 cubic feet below her power. The area of the blast pipe is about one-twelfth of the cylinder.

The lateral motion of the train on the road between Paddington and Didcot was considerable, arising from a defective carriage; but on other portions of the line, in other carriages, the oscillations were neither frequent nor unpleasant.

Altogether, the performances of this leviathan engine are unexampled and wonderful; and truly may they be acknowledged as a great fact and worthy of the genius of her inventor.

* *Morning Herald*, June 17th.

DESCRIPTION OF MR. SMITH'S CANADIAN PATENT RAISED OR ELEVATED RAILROAD.*

BY MR. SMITH, C.E. OF TORONTO, CANADA WEST.

A raised or elevated railroad was originally designed in the year 1836; it was then intended to be a framed box, bearing on the whole length of the road. It was framed and bolted together, it was to stand out four inches in the ground, and nine inches out of the ground. The frame of the carriage was placed low, and a friction guide-roller was applied on the outer side of the rail or box. If Mr. T. Tredgold had lived, and the original plan of a railroad from London to Birmingham had been carried out, this box rail was to have been introduced, although many doubts were entertained as to the durability of the timber part of it. When the present London and Birmingham Railway Company advertised for designs for the supports of the rails, a number of this box railway was sent to them, with others. They had no confidence in the durability of the timber, and gave the premium to the designer of the stone sleepers. These, after a short trial, they removed, and employed the wood sleepers.

It was not till some years after the original design that I thought of using piling piles, because the only English woods suited for the piles were oak and cherry. These were expensive and scarce. But these original difficulties are now fully removed, as we have many processes for preserving timber, namely, Kyan's, Burnett's, Payne's, and last, Margary's. The best of these engages to copperize timber at the rate of 2s. sterling for each foot cube, or one load. This latter principle appears much patronised by eminent engineers and the government officers. During my residence in Canada, I have also made myself well acquainted with the lar, which is there so abundant. This timber, if judiciously employed, will prove sufficiently durable for the piles of the elevated railroad; it is more durable for posts than the English oak—it is universally used in Canada for the posts of fences.

Great improvements have lately been made in the construction of pile-driving machines. Mr. Nasmyth, of Bridgewater Foundry, Patricroft, near Manchester, wrote me July 1, 1845, immediately after the first trial of his patent pile driver, a description of its performance. It works itself motion, it raises the piles, puts them in their place, holds them there, and drives them without the least defacing their heads. The piles employed were from fifty to sixty-six feet long, fourteen and sixteen inches square. These it drove into a hard slate foundation in two minutes, and frequently the first blow sent it down ten feet, the machine works from seventy to eighty blows per minute. By the old process the piles would have taken from fifteen to eighteen hours to drive. The piles I propose, on an average under twenty feet lengths, would be driven at about the rate of two piles per minute, and when work is well executed with dispatch it is always done at a cheap rate. When larger piles are required they must take more time. Those I allude to

* We have not received correct drawings of this invention, and are consequently obliged to insert the communication in an imperfect state.—Ed.

above I allow from six to twenty feet. From this some idea of the expense may be formed.

OBSERVATION 1.—The figures are sections of the raised or elevated railroad. The body of the carriage is placed low—as near the rails as possible; and it may, in many instances, be advantageously suspended, partly between the rails.

OBSERVATION 2.—This system possesses the following advantages over the present prevailing one:—Greater security from all accidents, as neither men nor cattle can repose on the road, nor get inadvertently in the way of the carriages.*

OBSERVATION 3.—The expense of side fencing might be almost entirely dispensed with; as few instances would occur where it would be absolutely necessary, and even then a slight addition to the road would be a greater protection than the fence itself. There is a protecting rail and a small guide wheel, in addition to the other guide rollers: this must convince any one of its security.

OBSERVATION 4.—The travel in the winter season would on this road seldom be interrupted, or even impeded, by heavy falls of snow. Such occasionally occur in England, and are of frequent occurrence in Canada.

OBSERVATION 5.—The greatest speed may be attained with perfect safety, as the body of the carriage itself is placed low, and the guides yet lower. All lateral vibration will be materially checked, and it is next to impossible for the carriages to be thrown off the road when travelling at a greater speed than any ever yet attained.

OBSERVATION 6.—As neither the rails, braces, or sleepers can touch the ground, they will be rendered far more durable than by the ordinary method of embedding them.

OBSERVATION 7.—The whole of the way being fixed on piles, the required level or inclination of the road will be attained at a much less expensive outlay than by a continuous line of excavation and embanking.

OBSERVATION 8.—A much less number of that class of men called navigators, or canallers, will be required to construct this road than the ordinary one. This was written originally for Canada, where labour is high, and where the canallers have made themselves most obnoxious by their repeated violent outrages; but in other countries, as well as Canada, an immense quantity of earth work will be saved.

OBSERVATION 9.—This road will be of the most permanent and stable character. The piles will be driven sufficiently deep into the ground not to be deranged by the repeated action of the frost and the thaw at the surface, an important object to be attended to in all countries, and where the gross load on each wheel of the carriage is heavy; and particularly so in the construction of a railroad in Canada, whose climate is fickle, where the soil is not dry or sandy, this consideration is doubly important.

OBSERVATION 10.—This road may be made of any strength; and

* It is a well-known fact, that if any cattle or sheep stray into a hard road, they are sure to select the hardest and driest part, which is the centre, to lie down upon, and usually sleep there. If a flock of sheep are in a field through which a foot-path runs, they usually sleep on that path—that is one cause why so many cattle have been killed by locomotives.

where, on other roads, expensive viaducts are required, the same ends may be obtained on this road by using long piles suitably braced together. This applies more particularly to Canada, where timbers of any length and dimensions may be procured on the spot, rather than to England, where timber is comparatively expensive.

OBSERVATION 11.—This road admits of being constructed with the greatest dispatch.

OBSERVATION 12.—Additional strength, if required, may at any time be given to this road at a trifling cost, by adding intermediate piles.

OBSERVATION 13.—Should the rails on this road require occasional adjustment, that will be more readily done than on the common railroad, the annual repairs and renewals of which are frequently attended with great expense.

OBSERVATION 14.—The surface of the rails of this road will offer less resistance to the wheels of the carriages than if they were placed near the ground, as dirt cannot accumulate upon them.

OBSERVATION 15.—The stress on the carriages for this railroad* being less than on the ordinary railroads, and their construction varied to gain strength and save material, their weight will not be so great to carry the same load, which must at all times be an important advantage; and particularly so when the line of road passes over an undulating country.

OBSERVATION 16.—For constructing this road, in many instances it will not be required to remove the stumps of the trees which stand on the line, and will consequently save both time and expense. This applies exclusively to Canada.

OBSERVATION 17.—A much less number of small rivulet, bridges, drains, and water-courses will be required for this railroad than is usually the case. But few arches in the embankments will also be required for farmers' field crossings and roads.

OBSERVATION 18.—Any description of iron surface rail can be applied to this road with more efficiency than to the common wood railroads, as there will be no tremour to loosen or derange it.

OBSERVATION 19.—If it were necessary, the common iron T rail might be readily fixed to this wooden rail, or the iron T rail might entirely supply the place of the wooden rail.

OBSERVATION 20.—As to cheapness of construction, if any one the least acquainted with the expense of constructing railroads will commence calculating the probable cost of this road, they will find it most insignificant when compared with the cost of other roads. When long piles are used they will, of course, be proportionally thicker, and then their distance from each other will admit of being greater, as the rails will allow of being any thickness to support the extra strain upon them. The notes C and D will assist the calculations as to cost.

OBSERVATION 21.—When the atmospheric power is employed on this road, and the inclination of the road allowed to be as great as one

* This observation was written in Canada, where it is a question if horse power would not be the cheapest for a limited speed, and then lighter carriages would answer; but even by preventing the lateral vibration of the carriages, and applying the breaks to the rails in some instances, the contents of this observation may apply to many other places than Canada, with small trains of moderate weight and speed. The carriages may certainly be reduced in weight; the use of the guide rollers would also assist such reduction.

in fifty, it will be seen how readily that extreme inclination may be gained by the aid of piles only, without any earthwork. Many instances must occur where excavating and embanking are necessary, but their extent will be less for this road than any other.

OBSERVATION 22.—This road will have a tendency to prevent many accidents where deep cuttings are employed, as an earth slip of moderate extent would not cover these elevated rails. The same advantage would also frequently occur on an embankment when the surface of the road often gives way, and leaves the ends of the sleepers without any bearing.

OBSERVATION 23.—Railroads crossing any other road, on the same level, will always be objectionable. This may easily be prevented by this road when worked with atmospheric power. The carriages being placed low, the depth from the ground to the top of the carriage will not exceed ten feet; and so, by raising the common road six feet, so as to pass over the railroad by a bridge, and sink the railroad four feet, it will be seen that a very small expense will prevent all road crossings on the same level.

OBSERVATION 24.—The arrangement mentioned in the last article will warrant greater security from accidents, and when the atmospheric power is employed there will be little danger of horses being frightened by the carriages without an engine. There are many accidents of this nature which are not reported as railway accidents, although they never could have occurred if railroads with locomotive power were not in use.

OBSERVATION 25.—As to the strength of the piles, most practical engineers are aware; should they not be, I will refer them to the accounts published of the experiments made at Havre, by the Corps Ponts et Chaussées. The result of these experiments will put any doubt of the strength of the piles finally at rest.

OBSERVATION 26.—For the wide gage upon the same raised principle, it will be observed, it has a centre, or third wheel. This would give greater strength to the carriages; the safety guides may be applied in this case either against the side or centre rails. It will also be observed that I have here shown an additional protection, which is supported or raised from the braces, and a small guide-wheel attached to the carriage acting against it. In this figure I have also shown how a wheel might guide the carriage by acting against a board placed below the rail itself; this wheel may be securely braced to the bottom of the carriage, which I prefer should be placed low.

OBSERVATION 27.—In these observations I have represented what is usually termed the friction roller guide. This is not a modern invention. I had working models in 1826, to which they were applied. The late T. Tredgold, Esq., informed me that a patent had been taken out for them, but observed they were not new; and as a proof of that he showed me drawings published in a French encyclopedia of the last century.*

* The author seems not to be aware of the invention of Mr. Prosser's guide-wheel, and the experiments upon it. While Mr. Prosser applies his guide-wheel diagonally, Mr. Smith proposes a horizontal guide-wheel. In England Mr. Smith's plan would be expensive, and present no corresponding advantages, but we are not prepared to say that his system, or some modification of it, would not be applicable in Canada, where timber is cheap, and snow frequently lies. — EDITOR.

GLEANINGS AMONG MINES AND MINERS*.

LISKEARD, May 12.—In the immediate neighbourhood of Liskeard, in what may be termed the "mining district," there are between thirty and forty mines. Three of them only (South Caradon, West Caradon, and Wheal Trelawney) are paying dividends; the remainder, with one or two exceptions, are yielding nothing, and are carried on at the expense of the adventurers, who are called upon every few months to contribute to the working fund. From this it will be seen the "calls" of this district greatly overbalance the dividends. The latter, according to the rates of payment at each of the three mines, amount to £25,446 a year, whilst the former must exceed double that sum. The plain English is, there are too many mines at work, and mining in theory and mining in practice are something like two extremes.

Liskeard itself is a funny-looking place; queer-shaped houses in irregular rows, called streets. Short and very steep hills, with sharp rolling stones sown broad-cast to the great inconvenience of tender pedestrians, being the most remarkable features in it. It is, however, a place (we presume) of some importance, inasmuch as it returns a member to Parliament—has a town hall (turned into a chapel)—a market place, and an hotel which really exceeds anything we were prepared to see in the "public" line. There is nothing in the town itself to show its near proximity to a rich mining district. We might as well be in the darkest corner of St. Michael's Alley as at the bottom of one of these streets, or hills, in regard to what can be seen of mining. Go, however, a little way out of town, and other prospects will repay the exertion of climbing—they call it walking here. Stretching out for miles to the right and left are the Caradon hills, dotted here and there with whitewashed engine houses, and showing at the distance but little to tell of what is going on beneath with the biped moles that burrow there.

Enough, however, of this; for we wish it to be understood that in our notes on the mines, we shall principally confine ourselves to facts and figures, and avoid as much as possible theory and speculation. We shall not pretend, because we have been a little way underground, that we have consequently any practical knowledge of underground operations; and when we give reports of them from others, we shall sift them well.

The mines we have visited within the last few days are working upon a small scale; the details, therefore, must necessarily be short and uninteresting.

DOWSING.—The art of dowsing, or finding the whereabouts of a lode by means of the divining-rod, we had thought to have been one of the exploded follies of the past ages; there are, however, many intelligent miners, as well as others in higher life, who have still the greatest faith in its virtues, and are surprised at our scepticism in the matter. We had a dowsing excursion the other day, and were highly amused at the antics played. The dowser first cuts two hazel twigs joined together at one end, and in shape of a two-pronged fork; with each hand he takes hold of a twig, and strains the muscles of his arms to the utmost; he then turns his hands upwards, still clutching the twigs, and forces his

* These letters are by a learned authority on mining, and were sent up to town in a detached form.—EDITOR.

elbows tightly to his sides. He is thus prepared to start on his voyage of discovery, which he does by walking slowly over the ground where he expects to find the lode, and receives, as he tells you, a sort of electric shock upon his system, and the rod falls towards his face, when he comes upon the back of the lode, and continues so until he has passed over it. Our dowser, who is a firm believer in the rod, received one or two shocks during our experiments, though we tried the process ourselves in vain. We must confess we are inclined to treat "dowsing" rather slightly. As for the shocks, if they have any other existence than in the imagination of the dowser, we are at a loss to account for them, unless it might be, that the attractive power of the lodes acts upon the hazel rod, in the same way as the lodestone attracts iron. We rather think, from the forced and unnatural position of the muscles, which are tightened like the strings of a fiddle, they become peculiarly susceptible of slight impressions (especially with nervous and excitable persons, who are said to be the best dowsers), so that the fancy plays tricks with the disciples of the hazel rod.

The ancient Pryce, we find, was a firm believer in the art. In his *Mineralogia Cornubiensis* he calls it *virgula divinatoria*, and though unable satisfactorily to decide upon it, he says, "As many deny, or at least doubt the attributed properties of the divining rod, I shall not take upon me singly to oppose the general opinion, although I am well convinced of its absolute and improveable virtues. Hooson, an older writer than Pryce, says, the first inventor of the *virgula divinatoria* was hanged in Germany as a cheat and impostor; and Georgius Agricola, in a Latin treatise, *De re Metallica*, says, "the application of the enchanted or divining rod to metallic matters, took its rise from magicians and the impure fountains of enchantment." No mention seems to have been made of the divining rod before the eleventh century. In the seventeenth century it was in use in France, and to account for its virtues, "the corpuscles," it was said, "that rise from the minerals, entering the rod, bowed it down, in order to render it parallel to the vertical lines which the effluvia described in their rise."

The rod was first introduced into Cornwall by Captain Ribeira, a Spaniard, who, in the reign of Queen Anne, was Captain Commandant in the garrison of Plymouth. He discovered, it is said, by the rod, a copper mine near Okehampton, which was worked for some years. This captain went further even than those of the present day; he could not only discover lodes, but tell what they contained.

If there really were anything in the art, it would be of great value, not only for finding new lodes, but for ascertaining the position of those already known, which from unexpected heaves, and unknown deviations from a straight line, are not always to be traced by dialling. The experiments, however, we have seen, only serve to confirm us in our unbelief. A friend who, though not a miner, is yet a disciple of the *virgula divinatoria*, has tried to explain to us, that a change of stratification in the earth, or a spring of water, as well as a lode, is generally a change of the electrical currents in the earth; and that the nerves of the dowser's arms are susceptible of this change, from the strained position of his muscles in the attitude in which he walks over it.

In this journey we have visited a great number of mines in the neighbourhood, and we shall now give extracts from our notes.

SOUTH CARADON COPPER MINE was the first discovered here, and may be said to have been the progenitor of all the Caradons. The lode discovered about ten years ago, in driving an adit in the Caradon. The outlay, before any returns were made, was £327 8s. 5d.; and the present time £48,000 profit have been divided among the shareholders; besides which, from the returns, four steam engines, two water wheels, steam stamps, and a great deal of other valuable machinery and buildings, have been erected and paid for. The workings are now upon the lodes, and returning from 300 to 400 tons of copper ore per month. There are about 450 persons employed. The deepest level is 110 fathoms. The present dividends paid are £7,680 per annum. The mine is looking well, but not so brilliant as she has been.

WEST CARADON COPPER MINE adjoins South Caradon on the opposite side of the valley, and has been at work about four years. The amount subscribed in calls by the shareholders amounted to £5,120. The returns of copper ore from the commencement to April last, have amounted to £89,343 14s. 9d. The cost during the same period for our share has been £43,678 15s. 7d., for materials £27,918 3s. 11d., leaving the profits divided among the shareholders have been £21,440, leaving a balance in hand of £1,426 15s. 4d. There are three steam engines at work, and another in course of erection; the present returns amount to 450 tons of ore per month, and the dividends at the rate of £1,520 per annum. The deepest level is 126 fathoms from surface, and between 400 and 500 persons are employed. The mine is looking very well. We have to thank Mr. Crouch, the purser, for the valuable statistics, which, with regard to many mines, are extremely difficult to obtain.

THE CARADON MINES are to the north east of South Caradon, and on the east side of the hill. A double cylinder (22 and 40) engine has just been erected. The shaft which is sinking in hard granite is down 34 fathoms from the surface. At the 35, cross cuts will be driven east and west, to intersect two lodes, one of which is expected to be met at about four fathoms from the shaft.

MONOMEXA, adjoining the Caradon, and to the north of West Caradon, is a very promising sett, under the management of the West Caradon Company. The outlay has been about £5,000.

CARADON CONSOLS is a large sett nearly to the west of West Caradon, bounded by Wheal Agar, and bounded by Craddock Moor, Wheal Norris, and the east of Caradon United. There are two shafts sinking through a hard granite country—the engine shaft is down 26 fathoms below the adit 14 fathoms; the other shaft, about 50 fathoms further north, is sunk by flat rods, and is about the same depth. In the bottom of the engine shaft, the captain informed us there was a promising lode, and they are daily expecting to cut a south lode. The engine is a new double cylinder, and works well. The outlay in the mine has been about £6,000. Agent, Capt. Whitford. Purser, Mr. Thos. Kittow.

CRADDOCK MOOR, to the north-east of Caradon Consols, and west of South Caradon, is a splendid sett; but the workings are on a miserably small scale, and such as will never, we should think, prove it a mine. The engine is a small 22-inch cylinder, and the shaft, which is now only 10 fathoms deep, is on an inclined plane, and sinking on the course of the

lode, at an expense of £30 per fathom. When we were there, two men were drawing up the stuff by means of the horse whim.

WHEAL NORRIS is a very small strip of ground; the shape of it, where they are working, may be shown by opening a pair of carpenter's compasses about two inches; it is to the north of Caradon United, and west of Wheal St. Cleer. They have a small engine of 22-inch cylinder, and the shaft is down 32 fathoms. They are paying £30 per fathom for sinking through hard granite, and will drive to cut their lode when they get down to the 35. The outlay has been about £1,500.

WHEAL ST. CLEER.—This is a mine which has occasionally been much puffed off in the London market, but nothing yet discovered ever warranted it. It is adjoining Norris, and is in extent 420 fathoms on the course of the lodes, and 250 fathoms north and south: seven lodes have been seen in it. There is an engine of 30-inch cylinder, and the shaft is down 49 fathoms. From the 45-fathom level they are driving a cross cut south to cut three lodes; it has been driven 8 fathoms from the shaft, and is expected to intersect the first lode shortly. The underlie has changed, or the captain informs us they would have cut it ere this. There are small veins of copper in the country through which they are driving; and some months since they found a few stones of tin. The outlay has been £3,840.

WHEAL POLLARD is to the north of Wheal Norris, and west of Craddock Moor; the sett is extensive, and is a good one badly managed. The operations are confined to sinking the engine-shaft by means of a water wheel 3 feet breast and 35 feet diameter, with an ample stream of water. This mine has the same superintending genius as Craddock Moor. From the water power it can be worked cheaply, yet we have heard but little of it in the London market. From some reasons or other, it is under a cloud for the present, until somebody's interest is to be served by bringing it out. The cost of working does not exceed £60 per month.

CARADON UNITED.—This is a very large sett, the largest in the district, adjoining Caradon Consols, and Wheal Norris. It is about three-quarters of a mile on the course of the lodes. A great many of the latter have been cut in the sett; but the operations now going on are sinking the engine-shaft, and driving an adit in Penhale. The engine-shaft is now 27 fathoms deep from surface, and sinking through hard granite, at a cost of £30 per fathom, the same as at Wheal Norris, Caradon Consols, and The Caradon. The engine is a 45-inch cylinder, works well, and is equal to carry the mine down 150 fathoms. The shaft is well placed to take four lodes to the south, and underlying north. The most northerly lode will be in the shaft at the 50-fathom level, and from its underlie will be out of the sett at the 120-fathom level. The other lodes are much further south. The adit in Penhale has been driven 213 fathoms, and is a most important thing, as it will, in the hill, give a back of 37 fathoms. There are one or two caunter lodes in this part. The outlay on the mine has been £4,000, and worked by a London Company. Here we may briefly notice what appears to us to be greatly the case, and unworthily so, among Cornish agents. It is scarcely possible to get the same opinion of a mine from two different captains, and each abuses that of his neighbour. The

mines seem to be divided into cliques. There are the Clymo's mines, the Quakers' mines, and the mines without friends; and whilst the former classes get supported *in opinion*, each by their own partisans, the latter are buffeted by all. Every agent thinks the mine upon which he is engaged to be the best in the world, and his mode of working the *best ideal* of perfection, and he has not charity enough to allow so much for his neighbour. Petty jealousies, and perhaps rivalries, tincture most of the opinions given, until it is almost impossible to get an unbiassed report. 'Tis this, in a great degree, that influences the price of shares; for it must not be supposed that a mine which bears a high price in the market is *in reality* worth more than many others, which may be much lower in price and in estimation. The principal owners and managers of a mine influence the prices of shares; it being too often the object of Cornish management to get shares up to a fictitious price—force them in a hot-bed, as it were, for the London market, as their setts, like Paddy's razors, are made to sell. Not so with a mine worked legitimately by *out-adventurers*, or Londoners. It is in this case sure to be abused by all parties near the spot; for the very reason they have no *personal interest* in speaking well of it. They would rather deter speculators from embarking in any concern out of their own control, as though it were an imputation upon *their* judgment to suppose any party could have obtained a sett worth prosecuting anywhere near them.

TOKENBURY MINE, in Linkinhorne, is a large sett, and has had a large outlay (something like £15,000 expended upon it), but no returns have yet been made. There is a very ingeniously contrived engine of 22-inch cylinder here, placed midway between two shafts, from both of which it is pumping water and drawing stuff. The reports of the operations now going on have been published so lately, that it is useless our repeating them here.

MARKE VALLEY MINES, in Linkinhorne, on the opposite side of the hill to South Caradon, are being extensively worked by a Salisbury Company. The outlay has been about £40,000 by the shareholders, and returns of ore £7,000. Present returns 100 tons a month, which barely pay the cost of working. There is a steam-engine of 36-inch cylinder, and two water wheels; the engine shaft is down 107 fathoms from surface, and 80 fathoms below adit. Workings are on three lodes, the ore being raised principally from the back of the Sarum lode at the 50-fathom level. The 65 level is about 8 fathoms short of being under the ore ground, in the 50. Altogether the prospects are favourable, the most important feature being that the lodes are getting through the killas, and entering the granite.

WHEAL SEDLEY, in St. Ive, is a promising set, belonging principally to the Marke Valley shareholders. It is worked by a large water wheel and flat rods; one shaft is sinking on the course of a promising lode, containing spots of ore; this shaft is down 19 fathoms from surface, or 2 below the adit, which has been driven 200 fathoms. There is another shaft up the hill in course of sinking, and is now about 17 fathoms from surface. The outlay has been about £1,500.

WHEAL GILL COPPER MINE.—This is a very large sett in the parishes of St. Cleer and St. Ive, and is worked in a fair and legitimate manner. The sett is one mile on the course of the lodes. Lease, twenty-one years; eighteen unexpired. Dues one-fifteenth. A former Company worked the mine to the 38-fathom level with a steam-engine which was

removed to West Caradon, sacrificing the one mine to the other. The present have commenced a new shaft, which, up to this time they have sunk 56 fathoms, and have erected upon it a fine new 50-inch cylinder engine. This new shaft will take the lode 80 fathoms deep, but a cross-cut will be driven from the 60-fathom level to intersect it. The ore now raising is from the back of the 16-fathom level, which has been driven 81 fathoms east of the old shaft into a piece of ground which could not be obtained by the old Company. The 16 has also been driven west 60 fathoms, through a large lode 5 feet wide, containing good stones of copper and great quantities of jack. The 26 has been driven east 8 fathoms from the old shaft, with stones of ore in it. The 26 has been driven west 20 fathoms: lode 5 feet wide, with stones of ore and jack. The 40-fathom level has been driven east 31 fathoms from the shaft, and will have to be driven about $24\frac{1}{2}$ fathoms further to get to the cross course, and under the ore ground in the 16. This will take about four or five months to accomplish. This level will communicate with a new shaft now sinking in the valley, and which is 8 feet deep, and will cut the lode in about a fortnight. This will throw great light upon the future prospects of the mine. About 500 tons of jack and 40 tons of copper ore have been sold, and there are about 30 tons of ore of above the average quality now at grass. The outlay has been £8,256. Altogether this is a most promising mine.

LISKEARD, May 21.—The mines in this neighbourhood are so distant from each other, and the roads so hilly and crooked, that it has been a matter of time and no little difficulty to visit them all. In our former papers, however, we have given the particulars of the most interesting copper, and we shall devote this principally to the lead, mines. These are greatly rising in public estimation, and respecting them there are not those conflicting opinions which throw such difficulties in the way of getting correct and accurate information regarding the copper mines. This we think, may be accounted for, in a great measure, by the fact that lead mines are *soon proved*. Lead is found at shallow depths, and the lode may soon be seen and judged of; and it does not require the many years of trouble and expense necessary to work for copper. The richest lead mine here is WHEEL TRELAWNEY, in the parish of Menheniotte, about three miles from Liskeard. It has been at work about two years; the outlay by the shareholders has not been more than £2,000, whilst the dividends paid have amounted to £2,080, and the mine is now paying at the rate of £6,240 per annum. The returns are 50 tons of silver lead ore, worth £18 per ton per month, at a cost of about £350 per month. Ere long it is expected the returns will be greatly increased. The steam engine is a 22-inch cylinder, and it is hoped, able to carry them down to the 42-fathom level. The shaft is now down 32 fathoms, and the deepest level is the richest. There can be no difference of opinion that the mine is the prettiest in the district.

WHEEL MARY ANN.—This is a fine sett, immediately adjoining Trelawney to the south. The levels of the latter mine are driven nearly home to the boundary of Mary Ann. In the latter, two shafts have been sunk: one on the hill, and another close by the boundary of Trelawney. In this shaft the lode has been cut at about 5 fathoms in depth. It is 3 feet wide, and contains beautiful stones of rich silver

lead. This is the favourite mine of the district, and it is thought will equal Trelawney. The dues here are 1-12th.

SOUTH WHEAL TRELAWNEY.—This is an extensive sett, adjoining Mary Ann, and is supposed also to take the Trelawney lode. At the north boundary, near Menheniotte Church Town, a shaft has been sunk 8 fathoms, and a level driven on Soby's lode for 40 fathoms, which has averaged about 3 feet wide, and promising. At the south part of the sett, when we were there, they were sinking pits, and found the lode containing small particles of lead. It is their intention, we believe, to sink a shaft here immediately. The works should be prosecuted vigorously, and the shareholders may one day have a good mine.

HEKOD'S-FOOT LEAD MINE, in the parishes of Lanreath and St. Pinnock, about four miles from Liskeard, is an extensive sett, three quarters of a mile long on the course of the lodes. The mine was first worked some hundred years since. Another Company worked it about seventeen years ago, by means of a water wheel, and sunk to a depth of 52 fathoms. This Company raised and paid dues upon £7,000 worth of lead, when it was at a low price; the mine was then stopped for want of water power to go deeper. The sett was taken by the present Company, and operations commenced on the 21st October, 1844. Twelve months afterwards, they erected a new 40-inch cylinder steam-engine, and other machinery, which is worth upwards of £2,000, and in most efficient working order. The engine first went to work in October, 1845, since which the mine has been cleared to the 52-fathom level. The engine-shaft is now 59 fathoms deep, or 7 fathoms under the old workings: when 3 fathoms deeper, a cross-cut will be driven about 2 fathoms, to cut the lode. At the 52, about 22 fathoms have been driven on the course of the lode, the lode all the way producing good stones of ore. In driving south of the shaft, a good shoot of ore was discovered which lasted 4 fathoms, worth £9 per fathom; this has gone down, so that it will, in all probability, be met with again in the level below. The lode at the 62-fathom level will be cut by the end of June. There are four valleys in the sett which the lode crosses. In the first valley, south, about 150 fathoms from the engine shaft, a new shaft is in course of sinking by means of a water-wheel, and is now 7 fathoms from surface. At 14 fathoms it is intended to cut the lode which was discovered here about 7 feet from the surface. The shaft is going down in a beautiful killas, precisely similar to that which produced so much lead in the engine shaft. In Winson's shaft, about 50 fathoms from the engine shaft, they are sinking on the course of the lode; it is down 14 fathoms, and they are rising from the 24-fathom level to meet it. The outlay on the mine has been £3,584. There are five tribute pitches set in the old mine, which are paying about half cost. The lead at surface is of good quality, worth from £18 to £20 per ton, and in a few weeks from 20 to 30 tons will be ready for sale.

Many of our readers have doubtless heard of "account meetings." They are sure to hear of them soon enough when "calls" are made. They are very simple meetings in themselves. The shareholders (that is, those who choose to attend) walk into the counting-house at the mine, examine the books, bills, vouchers, and cost-sheets, and pass resolutions which are entered in the cost-book; this the

adventurers present, and there is no said to not the first. The second will open with a dinner is usually the most interesting; as that of August 18. The first dinner "commemorative" speech is a delightful and pleasant surprise. If the first dinner is indulged in, it is not to make unnecessary reflections the next day, and it requires a dividend to be found in the process of working oneself to them. Our first specimen of a meeting of this kind was at Caradon Cornish on the 18th. All we shall mention for great interest in the prosperity of the mine.

St. Nere — This is a very romantic little village with a church worth traveling one hundred miles to see. It contains sixteen large painted windows most of them descriptive of different parts of scripture; whilst one is devoted to the image of the patron saint—Lionel St. Nere. Many anecdotes are told of this saint, one of which, as it relates to mining we shall give in this place—"as it was told unto us." Our readers may believe as much of it as they please. It appears, then, that a miner performed some good service for St. Nere, for which the little saint, as he is called, was desirous of making some handsome acknowledgment. The miner therefore suggested he would point out to him where a rich lode might be found in Grouse Downs. St. Nere promised he would do so, and told the miner if he went on the Downs the next morning he would find a feather stuck where the lode was. The miner we presume passed a restless night, and was early in the Downs when, in his imagination, he found covered with feathers. The saint had performed his promise, but left no mark to show which identical feather was over the lode; and to this day although Grouse Downs have been "examined" all over, the lode of St. Nere has not been found. We fancy there are many here as well as elsewhere wasting their energies for a feather, or something better.

There are but two mines at work near here. They are not on the Downs; and as they are worked by the Quakers, we presume they are not in search of Saint Nere's feather.

WHEEL SISTERS is making returns of copper, but not sufficient to pay the cost of working (£400 per month). The outlay has been about £6,000, and the mine is considered promising. There is a 36-inch cylinder steam engine at work. The engine shaft is sunk 40 fathoms, and the fan rod shaft 50 fathoms. The ore is all being raised from the latter.

WHEEL MARY CONSOLS adjoins Wheel Sisters, but not upon the same lode. The mine was worked extensively by a former Company. The present adventurers have erected a 63-inch cylinder steam engine, and two water wheels; altogether, the machinery is most efficient. The outlay has been about £5,000. The principal operations are confined, for the present, to clearing out the old workings. The engine shaft, which is 80 fathoms below the adit, is in fork to the 60. Three pitches are set in the old workings. This, as well as Wheel Sisters Mine, is under the management of the West Caradon party.

LISKEARD, June.—On the road from Liskeard to Truro may be seen several mines, but none of any very great importance. Just through Bodmin, close to the road side on the right, is Wheel Kekewich,

orked by a weak water wheel—and a still weaker party. Further the right is a promising mine, called *Wheal Mary*; whilst at the left may be seen the well known mines of *Lanivet*, (formerly *Tregollan*) and the *Treuil* mines, particulars of which we must leave for the present. In the meanwhile, should any of our readers travel this route, and place themselves on the hindermost seat of the “*Telegraph*,” they will find *Jones*, the guard, both able and willing to give them some mining notes on the road,” and some shrewd hints into the bargain. *Jones* is quite an adventurer in mines, and very intelligent withal. Indeed, Cornishmen in general are very intelligent; and some of the miners, as *Jonathan* would say, “*tarnation cute*,” and have a reason at hand for everything they do—

“Whatever sceptic may enquire for,
For every why they have a wherefore.”

any man can do everything, too, except see through a fathom of ground, and to enable them to accomplish this, they say, “Perhaps the *Lancers* will invent something.” It would indeed save many a bitter disappointment. “*Brother Jack*,” like many others in the world, studies appearances not a little. Everything in a young mine is placed to the greatest advantage, and a “*keenly gossan*” will be strewed about a sort of carelessness, which has, in fact, much method in it. Enough, however, of this for the present, for we do not intend to tell all the secrets we have learned at once.

The first mine we visited in the neighbourhood of *Truro* was *EAST HEAL ROSE*, where we spent several hours. It is not only the richest, but the most extensive lead mine in England. The sett is two miles long on the course of the lodes (of which four are being worked), and a mile and a half miles from east to west. There are sixteen principal shafts in course of sinking, and the works extend one mile in length under ground. The deepest shaft is 99 fathoms, and expected to be at the 100 in about a fortnight*. The original outlay by the shareholders did not exceed £6,400, whilst the profits divided amongst them in the last four years amount to £143,360. The machinery on the mine, consisting of six steam engines, and every other requisite for working so enormous a concern, is estimated to be worth £35,000. The present returns are from 450 to 500 tons of lead per month, raised at a cost of about £2,500 per month, whilst the profits amount to £10,000 per annum. Underground and at surface about 1,100 persons are employed. The lodes here in many places are remarkably soft, bearing a resemblance to quicksand, and requiring to be boarded up to prevent the lead from being washed away. In the different levels there is quite a forest of Norway timber packed away, and the quantity now daily used is enormous, though we were not able to get at the exact number of loads. *East Rose* was originally worked on east and west lodes, and was about to be abandoned as a bad concern, when a rich vein was discovered running north and south. The lead raised is not rich for silver, and yields about £15 per ton. The value of the lode is about half a ton, or £7 10s. per fathom. A curious circumstance here is, that the lodes occasionally form a junction and cross each other.

Immediately adjoining *East Rose*, to the north, is a small mine,

• Has since reached the 100, where the lode is said to be rich.

NORTH WHEAL ROSE, through the southern corner of which the principal lode of East Rose runs. Very great expectations were formed of this lode, but the change of its underlie from a slanting direction into the sett to one nearly perpendicular, seems to have greatly disappointed the parties concerned in it. The flat-rod shaft is now down to the 70-fathom level, where the lode is expected to be seen by the end of June, and it is to be hoped the underlie will prove greater than from the 50 to the 60-fathom levels. When we were on the mine they had just sold 74 tons of lead, 60 tons yielding £17 6s. per ton, a much better price than obtained for East Rose lead. The present quantity of lead raised, barely, we should think, pays the cost of working.

Further north, adjoining North Rose, we have **WHEAL ACLAND**, **WHEAL METTHIR**, and **RICKARD'S ROSE**. The former is a very large sett, and it is supposed must have the East Rose lode, though it has not yet been found in it, and the works are progressing very slowly. We believe it is the intention of the managers not to spend much money until they can, by the workings in East Rose, learn clearly where their lode actually passes into the mine. Wheal Metthir appeared to us to be out of the direction of the lode, though some affirm it is not. Rickard's Rose is small, but a most promising mine, and immediately in the run of the lode, if the new engine shaft, now in course of being sunk at great expense in Oxnam's ground, be any criterion. It is the intention to remain quiet here, the same as at Acland, until operations can be vigorously and with more certainty undertaken. There are two more promising young mines still further north—Wheal Rose Consols and Wheal Dyke—both of which hope to have a slice of the East Rose lode.

On the road from Truro to Redruth we called to see a new discovery of lead at **PERRAN WHEAL VIRGIN**, and which had caused great excitement at Truro for a week or two previously. The lead (certainly in fine bunches), was discovered a few fathoms from surface, but we saw nothing to warrant the great price asked for the shares (£50 premium). Everything, indeed, was laid out to the best advantage. Descending into the pit, our foot fell upon a fine block of lead; placed there, it is said, by nature, though we doubt it. It looked as unnatural as boarding up the end of the lode, and locking up the picks, so that no one should try the ground for themselves. However, a lobby which is now being brought up slowly, to prove the value of the discovery at a deeper level, will show how much of the commodity called "humbug," has been mixed up with the affair*.

Redruth is almost as queer looking a place as Liskeard; but as our description of this latter town does not exactly please some of its admirers, we will spare the former any description at all. The country for miles round about is covered with mines; the striking features in the landscape being engine houses, tall white chimney stacks, and whim and other chains, which, continually running over wheels and such like things, discourse anything but "most eloquent music;" whilst immense heaps of rubbish or deads, thrown up from the different shafts and pits, give a most extraordinary appearance to the country, as though it were covered with monster mole hills.

TREVAEAN COPPER MINE, situated on the slope of a high hill, is one of the largest here, and has left a profit at different workings of more than £800,000. The present Company have made £445,000 profit

* Since this was written, the lode has been cut rich 9 feet deeper.

in her. At the present time she bears decided appearances of old age, and is leaving a profit of about £200 per month at a cost of about 1,000 per month. The machinery is very extensive, and must have cost a large sum of money. The principal engine-shaft is 346 fathoms deep, and cost £20,000 in sinking it. There is here what is called a "man engine," for raising and lowering the miners, which saves the tedious climbing the men had formerly to perform after working their way up. It was the invention of Mr. Michael Loam, the engineer. It is composed of two perpendicular rods of wood, having projections about twelve feet apart, upon which each man, ascending or descending, stands. In the rods are placed long iron handles, which the men lay hold of. As one rod descends the other ascends, and at every other step there is a check, to enable the person travelling to shift from one rod to the other. This is an easy way of descending into the lower regions, at the rate of 11 fathoms per minute, and had it not been so dark and warm we should have ventured down. Tresavean is generally considered a dry mine, and the lodes are productive only in granite; wherever they pass into killas or slate, they become poor. This is their singular, as in many of the mines we have visited the lodes have yielded most ore in killas.

The management of this great concern is in the hands of a committee, composed principally of the largest shareholders in the county. As we attended the last account meeting on the 29th of May, we shall here give a slight description of the proceedings. The books of the Company, together with merchants' bills, vouchers, &c., are first examined by the committee; they are then placed on the desks of the account-house for the inspection of the shareholders at large. We had the curiosity to look over the bills. The committee certainly seemed to have the interest of the adventurers at heart, for we found several of the bills of the smaller merchants had been, what we commonly call "docked," or a certain per centage taken off them as overcharge; whilst among the large bills of the larger merchants, such as the Messrs. Harvey, of St. Mary, &c., we could not perceive that the same operation had been performed. Our conclusion, therefore, was that these gentlemen, being members of the committee, had charged the very minimum price for their goods, and which, if our conclusion be correct, it is very satisfactory to know.

The mines round about Tresavean are poor, without exception; we must, however, defer notice of them till our next.

Before we proceed with our notes upon the district of Gwennap, we may as well premise that they must necessarily be short. The mines are so thick that to give full details of all of them would take a month's hard writing, and more trouble than this hot weather would make agreeable. When, however, we meet with anything particularly interesting, we shall not pass it over so briefly.

The mines immediately adjoining Tresavean, and worked either in part or entirely by the aid of her machinery, are Trethellan, West Trethellan, Wheel Brewer, and Treviskey and Barrier.

TRETHELLAN joins Tresavean to the west, and has the same lodes; her sett is small; about 84 fathoms in length. It first made returns of ore in 1837, and has yielded up to this time about £120,000 worth of copper, and paid a profit to the shareholders of something like £50,000.

The monthly cost of working has been about £500. The 156-fathom level of Tresavean, which is 216 fathoms from surface, is driven into Trethellan about 8 fathoms; but this, as well as the levels above, are poor at present.

WEST TRETHELLAN lies still further west, and to the south of Wheal Brewer; the deepest level driven into this sett is the 124. From the 100-fathom level about 15 tons of ore per month are being raised, and which about pays the cost of working.

WHEAL BREWER is a very short sett, the ore ground getting gradually less as it goes down. Having been worked at little expense, the profits made have been very great when the smallness of the mine is considered. It commenced working in 1840, and has paid dividends to the amount of £10,000. At present the mine is poor, and not more than paying cost.

TREVISKEY and BARRIER are to the east of Tresavean. The lodes of the latter have been driven into them, and the mines are leaving a profit of about £400 per month. There is a fine engine on Treviskey, and the shaft, which has cost upwards of £10,000, is now completed to the 224-fathom level. The levels from this upwards are rather poor at present, the 212 and the 176 being in killas, in which the lode here generally fails.

To the north of Tresavean, is WHEAL COMFORT, a promising mine, having, it is supposed, the Penstruthal lodes. They have a small steam engine here. The shaft is down 100 fathoms from surface, and they are raising some good stuff from the 12-fathom level. The outlay has been about £5,000.

PENSTRUTHAL, although she left a profit of £100,000 a few years ago, is not doing any good at present; there is nevertheless, some talk of erecting a 70-inch engine upon it.

At TING TANG, near the Consolidated Mines, an outlay of £15,000 has lately been expended. They have erected an 80-inch cylinder engine, and are now down in the shaft 120 fathoms, and driving to cut the lode at that level. The prospects are here are thought to be encouraging.

THE CONSOLIDATED MINES consist of Carharrack, West Wheal Virgin, Wheal Virgin, and Wheal Fortune. The workings extend for more than 60 miles underground. Altogether, from first to last, they have yielded a profit of £700,000. From 1819 to 1840, they were under the management of Mr. John Taylor, and returned 300,000 tons of copper ore, yielding in money £2,000,000. The cost for working amounted to more than £1,500,000, whilst the remainder was divided as profit. Since 1840 they have been under the management of Messrs. Williams, of Scorrier; the cost of working them is about £4,000 per month, which the present returns of copper about pay. There are upwards of thirty engines at work. The mine is about the same depth as Tresavean.

THE UNITED MINES, near the Consols, are still under the management of Mr. Taylor, and are making a profit of about £7,000 per annum. They consist of Poldory, Cupboard, and Ale and Cakes; and, next to Wheal Maria, are making the largest returns of copper.

THE CARN BREA MINES, in Redruth and Illogan, are supposed now to be the richest in Cornwall, and are discovering at least £12,000 worth of ore per month. They are large in extent, and have a great

deal of machinery upon them. The cost of working is about £2,000 per month. The profits divided among the shareholders are £1,000 per month. Near here, and supposed to leave the Carn Brea lodes, is a promising young mine,—

WHEAL UNION.—It has been lying idle some years; but within the last few months, a steam engine has been erected upon it, and in about a month it is expected the lode will be met with.

THE TINCROFT MINES, near Carn Brea, worked by a London Company, are very extensive. They were first worked in 1784, and left upwards of £100,000 profit; the present Company commenced them in 1833. The outlay by these proprietors has been £42,000, and they have received dividends to the amount of about £12,000. At present no dividends are being made. Too much money has been expended in surface erections. There are seven engines, most of them at work, and others about to be built. The mine, besides upwards of £40,000 worth of copper per year, yields large parcels of rich tin. There are 7 lodes in the sett.

EAST POOL is a small mine, but made most extraordinary returns a few years since upon an original outlay by the adventurers of a few pounds only. For several years it made a profit of £5,000 a-year, but of late has fallen off. The mine, however, is now looking better: there is a fine course of tin in the bottom level, and a profit of £400 made during the last two months.

WEST TOLGUS.—This is a promising concern. Outlay has been £5,120. A 40-inch cylinder engine erected. The sett is 1½ miles long east and west, and near the rich Tolgus mine, which formerly made such immense profits.

SOUTH WHEAL BASSETT.—This is a large mine, nearly a mile on the course of the lodes; has been at work about twelve years, and paid profit to the amount of £20,000. The dividends, for some reason or other, are stopped for the present, but will soon be resumed. There are six steam engines here. Returns about 300 tons of copper ore per month. The mine is one of the best in the district.

WEST BASSETT is not very promising. The shaft is down 40 fathoms. No ore discovered.

SOUTH WHEAL FRANCIS, adjoining, seems to be in a better situation, and is returning some good ore, with a fair prospect of doing something better.

GRAMBLER AND ST. AUBYN.—There has been a large outlay here, and the prospects of the mines, about twelve months since, were good. They are now not paying the cost of working, and very poor.

WHEAL BUCKETS.—This by some is considered a very fair speculation, whilst by others its name is considered rather significant, inasmuch as it will require more "buckets" than the present Company have to keep the water to any great depth. The engine is a 60-inch cylinder. When we were at the mine, the lode in the 32-fathom level was poor, and they were daily expecting to see it at the 42. (Since cut poor.)

CONDURROW.—This mine is in Camborne parish, and is a promising concern, yielding about 50 tons of copper ore per month, with a prospect of soon doing much more. The engine is a 36 shaft, down 100 fathoms from surface, and 50 from adit. The Llandoer lode, going

east, is worth £30 to £40 per fathom ; going west it just pays for driving. There are 3 cross cuts (the 10, 20, 30) all in course of driving to cut Hick's lode : expect to cut it at the 10-fathom level in about a fortnight.

DIRECTORS : THEIR EMBARRASMENTS AND LIABILITIES.

If the railway speculation of 1845 have been unparalleled in the commercial history of this country on account of the vast interests involved, the stupendous plans brought forward, and the really immense increase in the public works of this country, and the consequent development of its resources, which must in any event result from it, not less remarkable is that extraordinary state of affairs which has attended the subsidence of that national madness, and the clearing off of the superabundant schemes—the disappointment, ruin, and despair of the premium-hunting subscriber and his reclamations against the committeeman—the demands of the committeeman upon the defaulting allottee—the unprincipled threats of legal proceedings, which in too many cases were made the engine of successful extortion—the eager grasp at the mere shadow of a legal decision—on all sides complaints, accusations, repudiation—the endeavour of every party by any means, fair or unfair, legal or illegal, to shift upon others those losses and liabilities which were the just due either of his own imprudence or individual participation in the universal folly.

No contrast can be greater than that afforded by a comparison of the state of affairs in the middle of 1845, and at the close of that year. In the heyday of speculation there were, indeed, a few who uttered warnings which passed almost unheeded against the madness of the day, and predicted as its result bankruptcy and ruin ; knowing that if, in the uniform cycle of events, the spirit of enterprise had not yet reached the culminating point, it had at least been carried beyond the bounds of prudence, and sooner or later an end must come to that period of prosperity as to every preceding one, after which a time of severe depression at least must infallibly ensue. But with the public in general there was a feeling of universal confidence, a general expectation of private gain, not so much by means of one speculator preying upon another, as in consequence of each acquiring a share in that more complete development of the capital of the country, and that great increase in the profits of capital, which it was believed would be produced by the immense addition contemplated to be made to the working stock of the nation in the creation of new lines and the completion of the system of railway communication. In those days a committeeman was esteemed in proportion to the number of lines in which he was engaged, and the way to his favour was regarded as the road to fortune. At that period, long before the scrip of a Company was issued, the moment the shares were allotted, and even before they were allotted, bargains were made in them at a premium. Then every

one was eager to get shares in anything and in everything ; everybody applied ; some begged, some requested, some demanded ; every man used every influence and counter-influence to secure a few shares for himself ; and great, indeed, was the happiness of him who obtained an allotment, and much was he envied. The committeemen, however, reserved for their own body every share which they had not special reasons for allotting elsewhere, and those general applicants who had not the advantage of possessing a friend in the direction got none. The revulsion ensued, money became scarce, scrip fell down to zero, the public belief in the general prosperity of the nation, the individual affluence of the people, and the gigantic fortunes of the committeemen passed away, not like the baseless fabric of a vision, but like a real substantial evil which has had its course and departed, leaving its victims involved in ruin and despair. It was then found that the funds of the shareholders had been squandered, enormous liabilities incurred, and that there was very little to return, and nothing of any value to represent what had been spent. The great break-up followed. Shareholders met, and called their directors to account for their lavish expenditure ; accusations and recriminations were bandied about ; and the railway world became a scene of confusion and uproar.

It is probable that after a suitable exercise of the Englishman's privilege of grumbling, and a few intemperate speeches, calling in question the honour, integrity, and so forth of the committeemen, the shareholders would ultimately have accepted the remnant of their deposits, and a great source of uneasiness and difficulty would have been at an end. But in an evil hour for the committeemen, the *Times* took up the shareholders' case, raked up *Nockells v. Crosby*, and suggested that there were strong reasons for believing that an action would lie for the return of the deposits without deduction. Next came Mrs. Walstab's action against Mr. Spottiswoode ; and the Lord Chief Baron having, on summing up, expressed a very strong opinion, the verdict of the jury awarding the return of her subscription to Mrs. Walstab, was very generally regarded as settling the question. The shareholders were now in high spirits, and the prospects of the committeemen seemed cloudy. The hopes of the shareholders were, however, soon converted into dismay by the verdict in the Exeter case, which was blazoned forth by the revisional director party as completely establishing the liability of the allottees to pay up ; and many people did, in fact, pay upon their allotments under terror of the Exeter verdict. The case of the committeemen against the shareholders who had paid up, seemed to acquire new strength by the verdict against Mr. Toby ; but this happy delusion was doomed to be dispelled by the explanations which were soon generally disseminated of the true effect of this decision, and ultimately Mr. Toby obtaining a rule for a new trial. A week afterwards the case of the provisional directors again seemed to be in the ascendant, upon the successful issue of Mr. Martin's application for a rule to set aside the verdict in *Walstab v. Spottiswoode*, and enter a nonsuit. His rule came on for argument on the 29th of May, and after two days' discussion, the court took time to consider their judgment, which was ultimately delivered in confirmation of the decision of the court below ; as regards the repayment of her deposits to Mrs. Wal-

stab. All England was again convulsed, and a general run upon the managers of the unsuccessful schemes has ever since been threatened by the shareholders.

In a former number, we stated our views of the inexpediency on commercial grounds of introducing new practices in regard to the parties who ought to liquidate the losses which might arise upon the winding up of public companies, and we pressed upon all parties the advisability of coming to a speedy arrangement, and avoiding the dangers, delays, and loss which must result from putting off too long the settlement of these unlucky affairs. At the same time we protested against the claims made upon the allottees upon the ground of its moral injustice in most cases and its inexpediency in all. We are, however, by no means in favour of that universal refunding of deposits which the general public are anticipating from the directors of those schemes which have had the fortune to be thrown over. In the present state of the money market it is very questionable whether the shareholders in some of the defunct schemes are not better off than many of those who have obtained their acts; and we cannot very clearly see the justice of a distinction which would enable one set of shareholders to receive back their deposits in full, whilst another class are nominally placed in a better position, but in fact made to lose not merely their deposit, but also possibly to incur a liability to pay a further sum on winding up.

The judgment in *Walstab v. Spottiswoode* is almost universally understood to establish that, unless a Company absolutely make a railway, the committee can be obliged to refund the whole of the deposits to the subscribers without deducting anything for expenses. This idea is founded upon a partial misapprehension of the judgment in that case, and it will be found upon considering the circumstances and terms of that judgment, that it by no means bears a construction which will support that general proposition. The declaration in this case contained two counts, the first a special count, setting out the contract between the parties and the breach of the defendant; and the second a common count for money had and received. The special count stated, that the defendant and certain persons agreed together to form a certain Joint Stock Company, called the "Direct Birmingham, Oxford, Reading, and Brighton Railway Company," for the purpose of making a certain railway under the powers of an Act of Parliament to be applied for, the capital of which Company was to consist of £2,000,000, in 80,000 shares of £25 each, to be allotted by the committee to such persons as should apply for them, and as they should select for that purpose. That the plaintiff applied for shares, and thereupon she received a letter allotting to her thirty of such shares, and promising that upon her paying the deposit of £2 12 0d. per share to the bankers of the Company, and executing the parliamentary contract and subscribers' agreement, the defendant or his agent would give her, in exchange for the letter of allotment and the banker's receipt for such deposit, scrip certificates for thirty shares. That the plaintiff paid such deposit and applied to execute the deeds, and requested the defendant to exchange the letter of allotment and banker's receipt for the scrip certificates, but the defendant neglected or refused to deliver such scrip, and thereby wholly

discharged the plaintiff from executing such deeds, whereby the plaintiff was greatly damaged, &c. On this count the court declined to give any opinion, and directed the verdict to be entered for the defendant; but they were clearly of opinion that on the second count for money had and received, the plaintiff was entitled to recover on the ground that the scheme was shown to be at an end by the statement made by the chairman of the committee to the plaintiff, that the concern was going to be wound up, and the surplus deposits returned. Thus the nature of the contract between the parties was not ascertained, but it was determined that whatever the contract might have been, it had come to an end by the defendant's own admission. In fact the judgment in this case establishes nothing more than a confirmation of the old case of *Nockells v. Crosby*, so far as that, where a Company turns out a positive abortion, the deposits must be returned in full to the shareholders, but it does not show us either what constitutes a railway Company, or how and when it becomes an abortion.

In order to ascertain how far the decisions affecting the return of deposits are applicable to the general mass of railway Companies, it is necessary, in the first place, to know what is the nature of the contract entered into by the projectors on the one part, and the shareholders on the other; for we imagine few cases will arise in which it will be rendered unnecessary to inquire what the contract was, on account of the fact of its abrogation being so completely surrendered as in the *Direct Birmingham, Oxford, and Reading* case.

It is contended that the contract is to enter into a partnership for the purpose of making a railway, and that if no railway be made, the partnership never becomes effectual, and the subscribers are consequently entitled to receive back their money. This principle is considered to be justified by *Kempson v. Saunders* (4 Bing. 5), and by the case of *Nockells v. Crosby*. This may possibly be good law as to schemes which do not require to go to Parliament for powers to carry them into execution. But with a railway it is different, and it appears to us that the proper definition is that the parties enter into a contract to form a partnership for the purpose of going to Parliament for powers to make a railway.

Until the case of *Walstab v. Spottiswoode* was decided, it was the clear understanding amongst all parties that the agreement between the scripholders and the projectors, in the case of a railway Company, was for the latter to use their best endeavours to get an Act to authorise their line, and in the event of failure, the deposits were to be returned rateably to the subscribers after the deduction of the amount expended in going to Parliament. That this was the understanding is so notorious that it is absolutely surprising that parties can now come forward since the *Spottiswoode* case, and demand, on the strength of that decision, the return of their deposits in full. That this was the belief of the public is proved by its having been customary to insert in prospectuses statements to the effect that such and such a project was valuable in a national point of view, that it was of great importance as completing some particular line of communication, that it had the most powerful support, that there was no reason to anticipate oppo-

sition, &c. &c.; therefore, in all probability, the Company's bill would obtain parliamentary sanction. Then the shareholders clearly considered that the agreement with the projectors was merely to use their best endeavours to get an Act; but if they obtained the necessary power and not otherwise, to construct a line. From such an agreement, it would necessarily result that the shareholder must bear a rateable proportion of the fair expenses of the concern in going to Parliament; and till recently no one ever questioned his liability to such expenses. Indeed, so firmly was this principle established, that in many of the railway schemes brought before the public, under high auspices, it was considered a peculiarly favourable circumstance that the expenses to be borne by the subscriber in case of failure in obtaining an Act of Parliament were guaranteed not to exceed a certain sum per share. In the face of these facts it is impossible for any man to assert, that in the event of failure to get an Act of Parliament, he considered himself guaranteed the return of his deposits in full. On the contrary, it clearly shows that these claims upon the managers of Companies, except in cases of fraud, are nothing less than unprincipled attempts to take advantage of a *de post facto* decision, and involve a complete defiance of all honour and morality by those who make them.

This definition of the primary object of a railway Company is also borne out by the legal construction of the contract. Because it is notorious that no private men have power to make a railway running over the property of other parties, and through different parishes and counties, without applying for the consent of Parliament, and such consent may very possibly be withheld; and in fact it is a matter of statistics that parliamentary sanction is withheld from an immense majority of the lines brought forward. Both parties well know that the obtaining of an Act of Parliament cannot be guaranteed with any fair degree of certainty; and we are reduced to believe that the contract was either for some other object than making a railway, or that the shareholder was endeavouring to take advantage of the committeeman by surprise, or that the committeeman, for some fraudulent object, entered into a contract which he had no sufficient ground for anticipating that he could fulfil.

It is imagined that the Joint Stock Companies' Act 7 and 8 Victoria, c. 110, precludes the possibility of any partnership taking effect between the parties till complete registration. But this would appear to be erroneous. By the second clause it is determined that the Act is to apply to every partnership whereof the capital is divided or agreed to be divided into shares, and so as to be transferable without the express consent of all the partners, and which shall consist of more than twenty-five members. To this clause is attached a proviso that, except as thereafter specially provided, the Act is not to extend to any Company for executing a railway, &c. The subsequent special provisions affecting railway Companies refer to provisional and complete registration, but there is nothing in the whole Act affecting railway Companies which can by any ingenuity be perverted into the meaning that a legal partnership cannot take effect between the promoter and the shareholder till the Act of Parliament is obtained, and the railway

in prospect of construction ; and if it had been intended that no partnership should take effect, there should have been a special provision for that purpose.

Thus we believe it is established that it is possible for a partnership to subsist between the parties to a railway Company without an Act of Parliament being obtained. If a partnership arise, the committeeman has a right to a contribution from the mere shareholder to meet the expenses of the joint undertaking which the Court of Chancery would enable him to enforce. And again, the plea of a partnership is a sufficient answer to any action raised for the return of the deposits. But in order to sustain this plea it is essential that the whole of the capital of the Company be subscribed for—that every share have its representative answerable to the other partners for that particular share. It is on this point of the incompleteness of the capital, that so many cases have been decided, and no question is more certain at common law. It would appear that, on the whole of the shares being subscribed for and paid upon, a partnership at once takes effect ; and Mr. Baron Alderson suggested, on the trial of *Walstab v. Spottiswoode*, that under those circumstances, even in that case, the shareholders would have been liable for their proportion of the expenses.

It has been contended that the Joint Stock Companies' Act prohibits the promoters of Companies from receiving anything from the shareholders, beyond 10s. per cent. as earnest, and the amount of the deposit required by the standing orders of Parliament; that the 10s., being earnest only, must necessarily be returned; and the parliamentary deposit being paid for a specific purpose, that amount must be returned also. But the fact is, that the Act gives no specific direction what is to be done with either amount, in case the Company does not get an Act for making a railway. The Act, however, gives full power to promoters to perform all acts necessary for obtaining an Act of Parliament; and as they had full power to do these things in their individual capacity, and at their own expense, without the authority of that Act, it is only reasonable to conclude that they were intended to be reimbursed when they perform them on behalf of others. No directions whatever are given as to the parties by whom the expenses in Parliament are to be borne, or the funds out of which they are to be paid, and we must presume that they were intended to be borne and paid by the parties who would have been liable, and out of the funds which would have been applicable to that purpose if the Act had not been passed; namely, by the whole body of shareholders and out of the subscribed funds of the Company.

Lord Dalhousie's Act to facilitate the dissolution of joint stock Companies, which will soon become law, is founded expressly upon the understanding that a partnership does take effect without any Act of Parliament being obtained. This Act provides for calling a meeting for the purpose of dissolving any Company; and upon a majority of two-fifths of any meeting duly convened, at which not less than one-third of the shares in the undertaking actually issued shall be present, passing a resolution for dissolving the Company, the affairs of that Company shall thereupon be wound up, according to the nature of the resolu-

tion passed, either under the provisions of 7 and 8 Victoria, c. 111. (an Act for facilitating the winding up of Joint Stock Companies unable to meet their pecuniary engagements), or according to the ordinary rules applicable to the dissolution of partnership undertakings.

COURT OF COMMON PLEAS.—TUESDAY, JUNE 23.

[Sittings at Nisi Prius, before Mr. Justice Erle and a Middlesex Special Jury.]

WONTNER *v.* SHAIRP.

MR. KNOWLES, Q.C., Mr. Serjeant Byles, and Mr. Brown appeared for the plaintiff; the defendant was represented by the Solicitor-General, Mr. Serjeant Dowling, Mr. Fitzherbert, and Mr. Stephens.

The plaintiff, a solicitor, brought this action against the defendant, a director of the "Direct London and Exeter Railway, with a branch to Falmouth and Penzance," and chairman of the committee of allotment of shares to applicants, to get back £82 10s., the amount of deposits paid by him on sixty shares to the bankers of the said Company. The plaintiff proceeded on the grounds, that he had been in great and material part induced to pay his money by fraud and falsehood, seeing that the misrepresentation which had operated upon his mind was false and fraudulent, and that his money was paid without consideration; and secondly, that a total failure of consideration had taken place. The fraud and falsehood were alleged to consist in an advertisement which appeared in the *Times* newspaper of the 17th of October, 1845. The failure of consideration rested upon the assertion that the scheme had proved abortive, and therefore the allottee was entitled to recover back his money.

Mr. Knowles, Q.C., opened the case. The advertisement said to be tainted with fraud and falsehood, went on as follows, after reciting the title of the projected railway:—"The committee of management hereby give notice, that they have completed the allotment of shares, and that the usual letters are this day issued. In the arduous duty of deciding on claims, unprecedented it is believed in their number and respectability, the committee have been obliged to give a preference to applicants locally interested, or likely to bring to bear for the Company a large share of legitimate influence. The numerous persons with undoubted claims on the score of wealth and social standing, whose applications have either been passed over or cut down, are requested to accept this reason as the committee's apology. The committee desire to add, that while the attestations of public support are daily reaching them from the most influential quarters, the engineering preparations, under Mr. Braithwaite, are so far advanced, that the project cannot fail to be placed before Parliament in a manner most satisfactory to the shareholders." To prove this, the first ground of action, namely, fraud and falsehood, and to make the defendant liable, and pre-eminently liable, a number of witnesses were called:—Springate proved that he

was clerk to the plaintiff; that plaintiff had received a copy of the Company's prospectus, and was in the habit of reading the *Times*, and that he had on two occasions applied for shares. Howard, a banker's clerk, in the house of Currie and Co., where the account of the railway was kept, stated that he had received £82 10s. from the plaintiff, for his deposits on sixty shares. Pritchard, from the Registrar-General's office, Sergeant's-inn, Fleet-street, produced the necessary books and papers, to prove that the defendant had been registered as a provisional director. Knight, a clerk from the *Times* office, produced the paper of the 17th October, 1845, and stated that the advertisement therein appearing had been left for insertion on the 14th of October, from the advertising agents, Barker and White. Manning, their clerk, deposed that he had taken it there, and had been in the habit of receiving advertisements from the offices of the Company. Brown, a messenger to the Company, was frequently employed to take sealed parcels from Dr. Blundell, the honorary secretary of the railway Company, to the offices of the advertising agents. Cooke was a clerk at the railway office. He remembered when the allotment of shares was going on. It was in October. The defendant had applied to him to know how many shares had been allotted, and he told him distinctly, 58,000. The defendant was chairman of the committee of allotments, the witness saw him constantly while the allotment was going on, and was called on frequently to copy documents furnished to him by the directors. The advertisement of the 17th October was put in his hand. It was drawn up by a member of the committee of allotment, the defendant being at the time in the chair. The witness was directed to make a fair copy of it, and this done, it was corrected and altered by the committee, in which proceeding the defendant took actual part, and the witness made a fair copy of the thus amended copy which was approved of, and divers copies thereof having been made by the other clerks, it was sent for insertion in the newspapers, and was subsequently published. Poole had been engaged as a clerk to the Company. He could not call himself secretary, because Dr. Blundell was the honorary secretary, but witness was, in point of fact, the medium of communication between the committee and the clerks on the establishment. He could not exactly say when the allotment commenced, or when it ended, but it began about the 10th of October, or something earlier, and terminated about the 14th of October.

Mr. Ranyard, a solicitor, had been employed to inquire into the responsibility of the applicants for shares, by ascertaining the validity of their references, and had sent in lists of those he deemed trustworthy; but these lists were cast aside, and in no way acted on. It was his duty, in conjunction with others, his assistants, to make alphabetical lists of the applicants approved of by report to the Company. The allotment committee, however (the defendant being chairman, and cognizant of the proceedings), first directed him to write to all the provisional directors, offering them 150 shares each, which he did, and they next proceeded to allot to those persons known to themselves. The whole allotment was certainly under 60,000. He urged the committee, and especially the defendant, to go on with the allotment, assuring them, that in addition to the 58,000 or 59,000 allotted, there were 40,000 applications from individuals of positive and undeniable responsibility.

When he pressed this fact on the defendant, the reply was, "Indeed! very well!" But no steps were taken upon the matter. He had no doubt that the whole 120,000 shares might have been allotted to respectable and responsible persons, and that the deposits upon the 120,000 shares would have been paid in. There were applications for above 400,000 shares, though only from 58,000 to 59,000 were issued. In London the deeds (the parliamentary contract and the subscribers' contract) lay for about a month for execution; he was afterwards sent into the country with them, and he found that the 120,000 shares would have been taken up in the country alone, if they had been allotted.

Dr. Blundell was called upon his *subpoena*, but did not appear. He had been honorary secretary. He had quarrelled with the Company, and to their embarrassment, as alleged, retained papers and documents; and a report of the body stated he was indebted to them in £512 10s., unaccounted for. He preferred a counter claim for services as secretary. It appeared that there had been a general meeting on the 15th of December, at which the plaintiff had proposed an amendment, touching winding up the concern and paying back, which the chairman did not put, while certain resolutions were carried, the effect of which was virtually—1st. To proceed with the undertaking. 2d. To strengthen the direction and issue new shares. 3d. To investigate the accounts. It was set forth that £30,305 12s. 6d. was expended, there being unaccounted for in Blundell's hands £512 10s., and in the hands of the finance committee unaccounted for £315 18s. 9d. And farther, on certain prohibitions, all known and recognised claims being discharged, there would be a computed balance in hand of £492. The future management of the Company was also on this occasion put into the hands of a new directory, consisting of Sir Bruce Chichester, Dr. Phillimore, and Mr. Chambers.

The Solicitor-General submitted that there was no case to go to the jury, and that there ought to be a nonsuit. He called attention to the dates, which were material. The plaintiff stated that by an advertisement false and fraudulent he had been induced to pay his money, and that, therefore, his money was so paid without consideration. But his application, the reply, and everything that made his contract complete, had taken place before the publication of the advertisement. On the 25th September plaintiff applies for thirty shares. On the 10th October, claiming the aid of a gentleman on the committee, he applies for thirty more. On the 11th he receives a letter of allotment, declaring the conditions upon which he may have the shares. He is to pay the deposit in four days and sign the two deeds, when the banker's receipt will be exchanged for scrip. If he do not pay on the prescribed day his allotment is to be forfeited: if, on the contrary, he does, he enters into the enjoyment of all the rights, and is liable to all the disadvantages of his contract, which is complete: a contract which he submitted he was not now in a position to repudiate. Under that contract he had paid his money; but he had done no more than he was bound to do, or than he might have been compelled to do. The subsequent advertisement of the 17th of October, true or false, had nothing to do with it. It was understood in the acceptation of terms used in railway advertisements, that when it was said an allotment was completed, it did not mean that all the shares, in this case 120,000,

had been appropriated, but simply a just and wise proportion thereof for the management of the enterprise. There was always a fair reserve for the directors and others perilously embarked in a great enterprise, to be dealt with fairly, and for the purpose of dealing from this reserved stock with competing lines and other adverse interests, that ought economically and wisely to be considered. There was no fraud accordingly in not issuing an excessive number of shares at once, so as to glut the money market. It was, on the contrary, wise discretion in the committee of allotment to hold their hands.

Mr. Justice Erle thought the case was one which ought to go to the jury.

The Solicitor General then addressed the jury, and called evidence. He put in the parliamentary contract and subscribers' agreement, and proved them, and the plaintiff's signature, and so forth, thereto; but on cross-examination it came out the dates of the execution by many of the committeemen were entered falsely; and out of the sixty-three odd, some thirty had not paid at all.

Mr. Knowles, in reply, contended that the whole affair, from first to last, was a tissue of fraud and falsehood.

Mr. Justice Erle summed up the evidence, and left it to the jury to say whether, looking at the prospectus and the advertisement, and judging as Englishmen of the meaning conveyed by words in their own language, there was, or was not, fraud and falsehood in the advertisement. The lure to join the enterprise was, that there was to be a capital of £3,000,000, and 120,000 shares, on which deposits were to be paid. The fact was, that only 58,000 shares were allotted, while it was stated in evidence that, were it not for some peculiar reasons upon the part of those in authority, the whole amount of shares might have been taken up by responsible persons. The jury were to say whether looking at the advertisement, it was true that an allotment of 58,000 shares out of 120,000 was "a complete allotment." For himself, he could not strain his mind so to consider it. And they were to look at the advertisement, and say if it was false; and, moreover, whether it was false to the knowledge of the defendant. It was one thing as to the chance of gain or loss to enter into a speculation with a multitude of solvent persons contributing to a large capital, and to be engaged in it with a few. In railways it should be remembered, that unless a capital to carry out an object to the utmost was forthcoming, the loss in the attempt at promotion was inevitable, and the gain impossible. Finally, his Lordship put three questions to the jury—1. As to the fraud and falsehood of the advertisement, and to the effect that it might have on the plaintiff in inducing him to pay his money. 2. As to whether the scheme was or was not an abortive one, and incapable of resuscitation. 3. As to whether the deeds had not been signed by the plaintiff under the same impression from the prospectus under which he paid his money.

The jury found at once for the plaintiff, answering all three questions in the affirmative.

COURT OF EXCHEQUER.—TUESDAY.

[Sittings in Nisi Prius before the Lord Chief Baron and Special Juries.]

FARGUES AND ANOTHER *v.* WHALLEY.

This was an action to recover the sum of £270, for engraving, etching, and printing plans and sections for the Tring and Reigate Railway, in the course of the month of November, 1845.

Mr. Chambers, with Mr. Robinson, appeared for the plaintiff, and Mr. Sergeant Allan, with Mr. Williams, for the defendant.

The plaintiffs are engravers and printers, in Berwick Street, Soho, and the defendant was sued, in this case, as chairman of the board of provisional directors of the Tring and Reigate Railway. The most conclusive evidence on the part of the plaintiffs was, that the defendant came into the plaintiffs' shop when the work was nearly done, approved of the manner in which it was executed, and expressly promised to see the plaintiffs paid. The defence set up was, that the committee had agreed with Mr. Elmslie, the engineer of the proposed Company, that he was to pay all the preliminary expenses of the Company, upon his receiving the sum of £850 in the event of the Company not being prepared to go before Parliament, but with the understanding that if the project proceeded the preliminary expenses should be paid in full. In support of the defence it was stated, that Mr. Elmslie had actually received £850 from the Company by means of a check.

The Chief Baron left it to the jury to say to whom the credit was given in this case, whether to Elmslie, the engineer, as suggested by the defendant's counsel, or to the managing committee of the proposed Company, of which the defendant was admitted to be the chairman.

The jury, after a short consideration, returned a verdict for the plaintiff—Damages £270.

MAIL ACCELERATION.—Mr. Gladstone, of Fasque, has addressed a letter on this subject to Lord Arbuthnot, in which he says:—The railroad from Berwick to Edinburgh will be opened for traffic about the 20th of June, and it is highly desirable arrangements should be immediately made for accelerating the mails from London to Aberdeen, by which one day down, and another up, would be saved, with a longer interval given at Aberdeen. It may, without difficulty, or anything unreasonable being asked for, stand thus:—London to Newcastle, 283 miles, twelve hours; Newcastle to Berwick, 58 miles, six hours; Berwick to Edinburgh, 56 miles, three hours; Edinburgh to Dundee, 42 miles, five hours; Dundee to Aberdeen, 68 miles, seven hours. In all, including stoppages, 507 miles, thirty-three hours. In another year, the railroad from Newcastle to Berwick will be finished, which will reduce the time to three-and-a-half hours more; but in the mean time it must be of high importance to get this great acceleration effected.—*Scotsman*.

THE
RECEIPTS OF RAILWAY TRAFFIC,

FOR

THE MONTH OF MAY AND THE THREE FIRST WEEKS OF JUNE.

Dividend.		NAME OF RAILWAY.	May, last week.	June, first week	June, second week.	June third week.
Per cent. per annum.						
d.	£ s. d.		£	£	£	£
0	3 10 0	Arbroath and Forfar	147	....	215	190
0	8 0 0	Birmingham and Gloucester... Returns imperfect.	....	....	....	....
0	4 0 0	Bristol and Gloucester..... Returns imperfect.	....	....	....	....
0	2 12 0	Chester and Birkenhead	591	....	785	703
0	3 14 0	Dublin and Drogheda	1,092	858	913	906
0	9 0 0	Dublin and Kingstown	1,096	1,370	....	1,276
0	8 0 0	Dundee and Arbroath.....	472	....	294	309
0	2 0 0	Durham and Sunderland	604	....	585	584
0	E. of N. of	Eastern Counties and Northern and Eastern.....	8,379	9,411	10,606	8,507
0	6 0 0	Edinburgh and Glasgow	3,328	3,415	3,515	3,309
0	6 0 0	Glasgow, Paisley, and Ayr	2,186	2,303	2,309	2,262
0	2 0 0	Glasgow, Paisley and Greenock	1,040	1,094	....	1,226
0	10 0 0	Grand Junction, amalg. with Birmingham.	....	....	....	....
0	—	Gravesend and Rochester	207	....	429	347
0	6 0 0	Great North of England	2023	....	....	....
0	8 0 0	Great Western.....	18,998	2,927	21,793	21,433
0	—	Hartlepool.....	954	824	924	865
0	6 0 0	Hull and Selby, amal. with York and N. Midland	....	....	....	....
0	10 0 0	Liverpool and Man., amal with Bir... Rets. Imper.	....	....	....	....
0	10 0 0	Lond. and Birm. & Grand Junc.	37,462	38,282	43,570	40,244
0	6 1 0 0	London and Blackwall	1,131	....	1,638	1,410
0	7 0 0	London and Brighton	4,607	5,206	6,493	5,558
0	3 10 0	London and Croydon... ..	1,607	2,007	1,739	1,837
0	10 4 10	London and South Western... ..	7,909	9,389	8,609	8,049
0	8 2 4	Manchester and Birmingham ..	4,348	....	6,322	5,052
0	8 6 0	Manchester and Leeds	6,166	6,499	7,698	6,164
0	5 16 0	Manchester and Bolton, and Bury	1,073	....	1,811	1,199
0	7 7 6	Midland.....	16,069	....	19,747	16,636
0	5 0 0	Newcastle and Carlisle	1,934	....	1,830	1,819
0	9 0 0	Newcastle and Darlington	2,197	1,978	2,975	2,794
0	5 0 0	Newcastle and North Shields ..	503	....	681	565
0	5 0 0	Norfolk	1,304	1,475	1,603	1,418
0	6 13 0	N. Union & Bolton & Preston, amalg. with Man. and Leeds	....	....	....	....
0	2 10 0	Preston and Wyre	702	809	1,244	933
0	5 0 0	Sheffield and Manchester.....	1,619	1,941	3,509	1,915
0	3 4 0	South-Eastern and Dover	7,112	7,880	10,483	8,073
0	5 0 0	Taff Vale	1,061	1,381	1,422	1,261
0	5 10 0	Ulster	589	....	....	571
25s.	10 0 0	York and North Midland.....	5,653	5,564	5,817	5,161
FOREIGN RAILWAYS.						
0	8 0 0	Paris and Orleans	6,395	....	7,334	7,021
0	8 0 0	Paris and Rouen.....	5,947	....	6,522	6,056

Shares.	Railways.	Paid.	CLOSING PRICES.			
			June 4.	June 10.	June 17.	June 24.
£	Aberdeen	10	0½ — 0½ dis	7½ — 0½ dis	7 — 0 dis	7 — 0
50	Amber, Nott, Boston, & E. Jun.	2½	.. ..	.. ..	.. ..	.. ..
100	Birmingham and Gloucester ..	100	124 — 126	124 — 126	126 — 126	127 — 128
25	Do. New (issued at 7½ dis.) ..	17½	31 — 32	31 — 32	31 — 32	31 — 32
20	Birmingham and Oxford Junc. ..	2	.. ..	.. ..	.. ..	.. ..
100	Bristol and Exeter	75	9 — 11 pm	9 — 11 pm	9 — 11 pm	7 — 9
25	Do. New	5	4½ — 5½ pm	4½ — 5½ pm	4½ — 5½ pm	4 — 5
50	Bristol and Gloucester	30	20 — 22 pm	20 — 22 pm	20 — 22 pm	20 — 22
25	Buckinghamshire	42s.	.. ..	.. ..	.. ..	.. ..
50	Caledonian	15	3½ — 3 dis	4 — 3½ dis	4½ — 3½ dis	5 — 4
25	Do. ½ Shares	2½	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	1 — 0½
25	Do. Extension	2½	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	1 — 0½
50	Cambridge and Oxford	13	.. ..	.. ..	.. ..	.. ..
50	Chester and Holyhead	22½	1½ — 0½ dis	2 — 1 dis	2½ — 1½ dis	3 — 2
20	Churnet and Blythe	2	.. ..	.. ..	.. ..	.. ..
25	Cork and Waterford	1½	.. ..	.. ..	.. ..	.. ..
50	Cornwall	5	3 — 2½ dis	3 — 2½ dis	3 — 2½ dis	4 — 3
25	Derby and Crewe	2½	3 — 3 pm	3 — 3 pm	3 — 3 pm	3 — 3
50	Direct Manchest. (Remington's)	2½	2 — 1 dis	2 — 1 dis	2 — 1 dis	2 — 1
25	Do. do. (Rasmick's)	5½	1 — 1 dis	1 — 1 dis	1 — 1 dis	1 — 1
25	Direct Northern	2½	.. ..	.. ..	.. ..	.. ..
50	Dublin and Belfast Junction ..	10	5 — 3 dis	5 — 3 dis	5 — 3 dis	5 — 3
40	Dublin and Galway	4	1½ — 0½ dis	1½ — 0½ dis	1½ — 0½ dis	1½ — 0½
Average	Eastern Counties	14.16.0	23 — 23½	23 — 23½	24 — 24½	24 — 24½
14.16	Do. New	8.16.0	7 — 7½	7 — 7½	8 — 8½	7 — 7½
6.18.4	Do. Perpet. 5 percent. No. 1 ..	6.18.4	.. ..	.. ..	.. ..	.. ..
6.18.4	Do. do. (No. 2)	6.18.4	.. ..	.. ..	.. ..	.. ..
20	Do. York Extension	10s.	.. ..	.. ..	.. ..	.. ..
50	East Lincolnshire	1½	dis — par	dis — par	dis — par	dis — par
50	Edinburgh and Glasgow	50	74 — 76	74 — 76	74 — 75	73 — 75
25	Do. ½ Shares	10	.. ..	.. ..	.. ..	.. ..
17½	Do. ¼ Shares	12½	17½ — 18½	17½ — 18½	17½ — 18½	17 — 18
17½	Do. New. ¼ Shares	12½	17½ — 18½	17½ — 18½	17½ — 18½	17 — 18
18	Edinburgh and Perth	3	.. ..	.. ..	.. ..	.. ..
18	Ely and Huntingdon	7½	3 — 2 dis	3 — 2 dis	3 — 2 dis	4 — 3
30	Gloucester, Aberyath, and Central of Wales	42s.	.. ..	.. ..	.. ..	.. ..
30	Goole, Doncaster, and Sheffield	12½	.. ..	.. ..	.. ..	.. ..
25	Grand Union (Notting. & Lyon) ..	2½	.. ..	.. ..	.. ..	.. ..
30	Great Eastern and Western	42s.	.. ..	.. ..	.. ..	.. ..
50	Great Grimsby, Louth, Horn- ca- tie, Linc., and Mid. Junc.	20	2½ — 2½	1½ — 2½	2 — 3 pm	2 — 3
100	Great North of England	100	218 — 222	218 — 222	218 — 222	220 — 225
40	Do. New	5	47 — 49 pm	47 — 49 pm	47 — 49 pm	49 — 51
30	Do. New	10	28 — 30	28 — 30	28 — 30	30 — 31
15	Do. New	1½	12 — 14	12 — 14	12 — 14 pm	14 — 16
100	Great Western	65	59 — 61	60 — 62	57 — 60	55 — 60
50	Do. ½ Shares	50	35 — 35	33 — 35	31 — 33	29 — 31
25	Do. ¼ Shares	5	11½ — 12½	11 — 12½	11 — 12	9½ — 10½
20	Do. Fifths	20	13 — 14 pm	13 — 14 pm	12½ — 13½	11 — 12
50	Guildford, Fareham, & Portab.	5	dis — par	dis — par	dis — par	.. ..
50	Hull and Selby	50	102 — 104	102 — 104	102 — 104	102 — 104
17½	Do. ½ Shares	12½	7 — 9 pm	7 — 9 pm	7 — 9 pm	7 — 9
25	Do. ¼ Shares	15	19 — 21 pm	19 — 21 pm	20 — 21 pm	20 — 22
50	Lancaster and Carlisle	40	16 — 18 pm	15 — 17 pm	14 — 16 pm	14 — 16
50	Do. New	5	4 — 5 pm	4 — 5 pm	4 — 4½ pm	4 — 5
50	Leeds and Bradford	26	27 — 29 pm	27 — 29 pm	26 — 28	26 — 28
20	Leicester and Birmingham	22s.	.. ..	.. ..	.. ..	.. ..
20	Leicester and Bedford	22s.	.. ..	.. ..	.. ..	.. ..
20	Leicester, Tamw. Cov., Birm., and Trent Valley Junction ..	42s.	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	1 — 0½
25	Liverpool and Leeds Direct	2½	.. ..	.. ..	.. ..	.. ..
25	Liverpool, Manchester, and Newcastle Junction	2½	.. ..	.. ..	.. ..	.. ..
Stock	London and Birmingham	100	228 — 230	226 — 228	225 — 227	224 — 226
25	Do. Thirds	24	38 — 39½ pm	38 — 39 pm	38 — 39 pm	38 — 39
25	Do. Quarters	9	26 — 27 pm	26 — 27 pm	26 — 27 pm	26 — 27
20	Do. Fifths	2	23 — 24 pm	23 — 24 pm	23 — 24 pm	23 — 24
25	London and Birm. Extension	1	.. ..	.. ..	.. ..	.. ..
Average	London and Blackwall	16.18.4	7½ — 8	7½ — 8	7½ — 8	7½ — 8
50	Do. New	2½	1 — 1½ pm	1 — 1½ pm	1 — 1½ pm	1 — 1½
50	Do. Extension	3	.. ..	.. ..	.. ..	.. ..
50	London and Brighton	50	65 — 65½	64 — 65	65 — 65½	64 — 66
50	Do. Consolidated Eighthths ..	.. ..	.. ..	.. ..	.. ..	.. ..
50	Do. do. Fifths	30	10½ — 11½	10 — 11 pm	10½ — 11½ pm	10½ — 11½
Average	London and Croydon	13.15.0	21 — 22	21 — 22	21 — 22	21 — 22
9	Do. Guaranteed 5 per Cent. ..	9.0.0	.. ..	.. ..	.. ..	.. ..
Average	London and Greenwich	12.15.4	9 — 10	9 — 10	9 — 10	9 — 10
Average	Do. Preference or Privilege ..	18.7.2	92 — 94	92 — 94	92 — 94	92 — 94
Average	London and South Western	41.6.10	78 — 80	77 — 79	77 — 79	78 — 80
40	Do. New Consol. Eighthths ..	24	18 — 20 pm	17 — 19 pm	17 — 18 pm	16 — 18
40	Do. New	17½	11 — 12½	11 — 12½	11 — 12	10½ — 11½
40	Do. New	14	8 — 10	8 — 10	8 — 10	8 — 10

No.	Railways.	Paid.	CLOSING PRICES.			
			June 4.	June 10.	June 17.	June 24.
	London and York	£ 2½	¼ — ½ dis	¾ — 1 dis	¾ — 1 dis	1½ — 0½ dis
	Do. ¼ Shares	2½	.. ..	.. ..	.. ..	.. ..
	Lond., Warwick, and Kidderm	2½	.. ..	.. ..	.. ..	.. ..
	London, Salisbury, and Yeovil	2½	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis
	Londonderry and Coleraine	10	0 — 4 dis	0 — 4 dis	0 — 4 dis	0 — 4 dis
	Londonderry and Enniskillen	10	.. ..	.. ..	.. ..	.. ..
	Lynn and Ely	15	2½ — 1½ dis	3 — 2 dis	3 — 2 dis	3 — 2 dis
	Lynn and Dereham	10	4 — 3 dis	4 — 3 dis	4 — 3 dis	4 — 3 dis
	Manchester and Leeds	82	40 — 45 pm	40 — 45 pm	40 — 45 pm	38 — 38 pm
	Do. ¼ Shares	38	18 — 22	18 — 22	18 — 22	15 — 20
	Do. ½ Shares	2	7½ — 8½	7½ — 8½	7½ — 8½	6½ — 7½
	Do. Fifths	3	9 — 10 pm	9 — 10 pm	9 — 10 pm	8 — 9 pm
	Do. Sixteenths	6½	3 — 3½ pm	3 — 3½ pm	3 — 3½ pm	3 — 3½ pm
	Do. Extension	42½	2½ — 3 pm	1½ — 2 pm	2 — 2½ pm	1½ — 2 pm
	Manchester and Birmingham	40	80 — 82	80 — 82	81 — 83	81 — 83
	Do. ¼ Shares, A	4	8½ — 9½	9 — 9½	9 — 9½	9½ — 9½
	Do. do. B	4	8½ — 9½	8½ — 9½	9 — 9½	9½ — 9½
	Do. do. C	1	8 — 8½	7½ — 8½	8 — 8½	8½ — 8½
	Do. Contin. and Welsh Junc.	1½	.. .. pm	.. .. pm	.. ..	.. .. pm
	Manch. Buxton and Matlock	42½	¾ — 1 pm	¾ — 1 pm	¾ — 1 pm	¾ — 1 pm
	Manchester and Southampton	2	.. ..	.. ..	.. ..	.. ..
	Midland	100	140 — 151	148 — 150	148 — 150	148 — 150
	Do. New	18	13½ — 14½ pm	13 — 14 pm	12½ — 13½ pm	13 — 13½ pm
	Do. Birmingham and Derby	109	122 — 124	122 — 124	122 — 124	121 — 123
	Newcastle & Darlington Junc.	25	19 — 21 pm	19 — 21 pm	20 — 22 pm	20 — 22 pm
	Do. New	1	8 — 9	6½ — 7½	7½ — 8½ pm	8 — 9
	Do. New Brindling	25	18 — 20 pm	18 — 20 pm	19 — 21 pm	19 — 21 pm
	Newcastle and Berwick	15	9½ — 10½	8½ — 9½	9½ — 10	9 — 10
	Newark, Sheffield and Boston	1½	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis
	Norfolk	20	5 — 6 pm	5 — 6 pm	5½ — 6½ pm	5 — 6 pm
	Do. ¼ Shares	5	2½ — 3½	2½ — 3½	2½ — 3½ pm	2½ — 3½ pm
	Do. Tenths	2	.. .. pm	.. .. pm	.. .. pm	.. .. pm
	Do. Extension	2	½ dis — par	½ dis — par	½ dis — par	½ dis — par
	North British	22½	7 — 7½ pm	6 — 7 pm	7 — 7½ pm	6½ — 7½ pm
	Do. ¼ Shares	8½	2½ — 3½	2½ — 3 pm	2½ — 3 pm	2½ — 3 pm
	Do. Carlisle Extension	1½	4 — 4½ pm	4 — 4½ pm	4 — 4½ pm	4 — 4½ pm
	Do. Dalkeith	25	.. ..	.. ..	.. ..	.. ..
	Do. do.	5	.. ..	.. ..	.. ..	.. ..
	Northern and Eastern	50	69 — 71	69 — 71	71 — 74	73 — 75
	Do. Serp. (issued at 5 disc.)	40	20 — 23 pm	20 — 23 pm	21 — 24 pm	22 — 24 pm
	Do. ½ Share	12½	17 — 18	17 — 18	17½ — 18½	18 — 19
	Do. New	1	18 — 20 pm	18 — 20 pm	19 — 21 pm	19 — 21 pm
	North Kent and Direct Dover	2½	1½ — 1 dis	1½ — 1 dis	1½ — 1 dis	1½ — 1 dis
	North Staffordshire	42½	3½ — 3½ pm	2½ — 3½ pm	3½ — 4 pm	3½ — 3½ pm
	North Wales	3½	.. ..	.. ..	.. ..	.. ..
	Northampton, Banbury, and Cheltenham	2	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	1½ — 0½ dis
	Norwich and Brandon	20	.. ..	.. ..	.. ..	.. ..
	Do. New	5	.. ..	.. ..	.. ..	.. ..
	Oxf., Worcester, and Wolverh.	12½	4½ — 3½ dis	4½ — 4 dis	4½ — 3½	5 — 4 dis
	Perth and Inverness	2½	.. ..	.. ..	.. ..	.. ..
	Portsmouth Direct	3½	½ dis — ¼ pm	1 dis — par	½ dis — par	½ — 1 pm
	Preston and Wyre	25	29½ — 30½	30 — 31	30 — 31	30 — 31
	Do. ¼ Shares	2½	.. ..	.. ..	.. ..	.. ..
	Richmond	10	5 — 7 pm	5 — 7 pm	5 — 7 pm	6 — 7 pm
	Rugby and Huntingdon	2	.. ..	.. ..	.. ..	.. ..
	Scottish Central	10	5½ — 6½ pm	5 — 6 pm	5 — 6 pm	5 — 6 pm
	Do. New	2½	.. ..	4 — 5 pm	4 — 5 pm	4 — 5 pm
	Scottish Midland	10	4 — 2 dis	4 — 2 dis	3½ — 2½ dis	3½ — 2½ dis
	Shrewsbury, Wolverhampton, and St. Staffordshire Junc.	2½	.. ..	.. ..	.. ..	.. ..
	Shrewsbury and Birmingham	2½	½ — ¼ pm	¾ — ½ dis	¾ dis — ½ pm	½ dis — par
	Shrewsbury and Hereford	.. ..	.. ..	.. ..	.. ..	.. ..
	Shropshire Union	42½	1½ — 0½ dis	1½ — 1 dis	1½ — 1 dis	1½ — 1 dis
	South Devon	35	2 dis — par	2 dis — par	2 dis — par	2 dis — par
	South Midland	42½	2 dis — par	2 dis — par	2 dis — par	2 dis — par
	South Staffordshire Junction	.. ..	.. ..	.. ..	.. ..	.. ..
	South Eastern and Dover	33.2.4	30 — 40	30 — 40	30 — 40	30½ — 40½
	Do. New (issd. at £2) No. 1.	16	3½ — 4½ pm	3 — 4 pm	3½ — 4½ pm	3½ — 4½ pm
	Do. New (£33 6s. 6d.) No. 2.	10	3½ — 4½	3 — 4	3 — 4 pm	3 — 4
	Do. New (£30) No. 3.	15	3 — 4 pm	3 — 4 pm	3 — 4 pm	3 — 4 pm
	Do. New (issd. at £15) No. 4.	2½	½ — ¼ pm	½ dis — ¼ pm	par — ½ pm	½ dis — ¼ pm
	Staines and Richmond	1	½ — ¼ dis	½ — ¼ dis	½ — ¼ dis	½ — ¼ dis
	St. Alban's, Hatfield, & Hertford Junction	42½	.. ..	.. ..	.. ..	.. ..
	South Wales	5	3½ — 2½ dis	3½ — 2½ dis	3½ — 2½ dis	3½ — 2½ dis
	Tea and Dove Valley	1½	.. ..	.. ..	.. ..	.. ..
	Trent Valley and Holyd. Junc.	2½	.. ..	.. ..	.. ..	.. ..
	Vale of Neath	2	.. ..	.. ..	.. ..	.. ..
	Warwickshire and London	42½	.. ..	.. ..	.. ..	.. ..
	Waterford and Kilkenny	8	4 — 3 dis	4½ — 3½ dis	4½ — .. dis	4½ — 3½ dis
	Waterford, Wexford, Wicklow, and Dublin	1½	.. ..	.. ..	.. ..	.. ..
	Welsh Midland	2½	.. ..	.. ..	.. ..	.. ..

Shares.	Railways.	Paid.	CLOSING PRICES.		
			June 4.	June 10.	June 17.
£		£			
	Wexford, Waterfd. & Valentia	1½	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis
	West Riding Union	42s.	2½ — 3 pm	1½ — 2 pm	3 — 2½ pm
50	Wills, Somerset, & Weymouth	5	3 — 1 dis	2½ — 1½ dis	3 — 3 dis
	Wisboch, St. Ives, and Cambridge Junction	3	.. — — — ..
30	Yarmouth and Norwich	30	.. — — — ..
50	York and Carlisle	2½	1½ — 1½ dis	3 — 1½ dis	3 — 1½ dis
50	York and North Midland	97	— 100	97 — 100	97 — 99
25	Do. ¼ Shares	25	47 — 49	47 — 49	47 — 49
25	Do. Scarborough Branch	25	47 — 49	47 — 49	47 — 49
50	Do. Selby	30	48 — 46 pm	48 — 46 pm	48 — 46 pm
25	Do. Extension	15	18 — 19 pm	17 — 19 pm	17 — 19 pm
	Do. E. & W. Riding Extensn.	1	10 — 10½ pm	8½ — 9½ pm	9½ — 10½ pm

FOREIGN RAILWAYS.

25	Barbadoes	1	.. — — — ..
20	Boulogne and Amiens	12	1½ — 0½ dis	1½ — 0½ dis	1½ — 0½ dis
20	Bordeaux, Toulouse, & Cette, (Mackenzie's)	2	½ dis — par	½ dis — par	½ dis — par
20	Bordeaux, Toulouse, & Cette, (Espelete's)	2	½ dis — par	½ dis — par	½ dis — par
	Calcutta & Diamond Harbour	7s.	.. — — — ..
20	Central of Spain	2	½ dis — ½ pm	½ dis — ½ pm	½ dis — ½ pm
	Ceylon	5s.	.. — — — ..
	Colomera	2½	dis — ½ pm	dis — ½ pm	dis — ½ pm
20	Dendre Valley	2	2 — 1½ dis	2 — 1½ dis	2 — 1½ dis
20	Dutch Rhenish	6	1½ — 2 pm	1½ — 2 pm	1½ — 2 pm
	East Indian	5s.	.. — — — ..
	Great Indian Peninsula	5s.	.. — — — ..
20	Gt. North. of France (constitd.)	5	.. — — — ..
20	Great Paris and Lyons	2	.. — — — ..
	Great Western Bengal	5s.	.. — — — ..
22½	Great Western Canada	3½	.. — — — ..
	Italian and Austrian	3	.. — — — ..
20	Jamaica South Midland Junc.	1	½ dis — ½ pm	½ dis — ½ pm	½ dis — ½ pm
15	Jamaica North Midland	1	.. — — — ..
20	Do. Extension	1	.. — — — ..
	Jersey	1	.. — — — ..
	Louvain and Jemappe	4	2½ — 2½ dis	2½ — 2½ dis	2½ — 2½ dis
	Lyons and Avignon	2	½ dis — par	½ dis — par	½ dis — par
20	Luxembourg	4	2½ — 2½ dis	2½ — 2½ dis	2½ — 2½ dis
20	Namur and Liege	6	2½ — 2½ dis	2½ — 2½ dis	2½ — 2½ dis
20	Orleans and Vierzon	10	4 — 5 pm	4 — 5 pm	4 — 5 pm
20	Orleans and Bordeaux	6	3½ — 4 pm	3½ — 4 pm	3½ — 4 pm
20.16.8	Over-Yssel	4.3.4	3½ — 2½ dis	3½ — 2½ dis	3½ — 2½ dis
	Paris and Lyons (constituted)	5	1 — 1½ pm	1 — 1½ pm	1 — 1½ pm
20	Do. do. (Laffitte's)	2	.. — — — ..
20	Do. do. (Ganneron's)	3	.. — — — ..
20	Do. do. (Calon's)	2	.. — — — ..
	Do. do. (Sad Est)	2	.. — — — ..
20	Paris and Orleans	20	47 — 48	47½ — 48½	47½ — 48½
20	Paris and Rouen	20	39 — 40	38½ — 39½	38½ — 39½
	Paris and Strasbourg (const.)	5	½ dis — par	½ dis — par	½ dis — par
	Do. do. (Compe de L'Est)	2	.. — — — ..
20	Rouen and Havre	20	28 — 29	28 — 29	28 — 29
20	Sambre and Meuse	8	3½ — 2½ dis	3½ — 2½ dis	3½ — 2½ dis
14	Strasbourg and Basle	14	8 — 9	8 — 9	8 — 9
	Tours & Nantes (constituted)	5	½ — ½ pm	½ — ½ pm	½ — ½ pm
20	West Flanders	4	2½ — 1½ dis	2½ — 1½ dis	2½ — 1½ dis

RAILWAY TERMINI.

Report of the Commissioners appointed to investigate the various projects for Establishing Railway Termini within, or in the immediate vicinity of the Metropolis. Presented to both Houses of Parliament by command of Her Majesty. 1846.

THE Metropolitan Railway Termini Commission was one of the inventions of the centralizing, or doctrinaire party, for the purpose of moulding railway enterprise according to their views. Certainly nothing theoretically appears more desirable, than that the termini of railways entering the metropolis should be arranged and constructed according to some system, and hence a silent acquiescence was given to the appointment of the Metropolitan Commission. Theory and practice are, however, very different things in England in matters of business; and hence, in the present instance as in others, doctrinaire operations have been found very serious impediments in the way of public interests. It is nevertheless scarcely to be wondered at that the Metropolitan Commission should prove a failure, as all its predecessors have done so, from the result of the same causes and from the presence of the same individuals. Board of Trade reports will, by frequent experience, at last become pretty well known as equivalent to failure and disappointment, exhibited in the reports on competing lines, the break of gage, and metropolitan termini.

We may be called to account for styling the report on the metropolitan termini a Board of Trade report, for the Board of Trade have fallen upon a new system: it is, nevertheless, a Board of Trade report. Taught by their frequent reverses, the Board of Trade have now hit upon the plan of employing intermediate commissions, which make a primary report; and the board, taking time to see how the wind blows, shape their acknowledged report according to the fate of their pilot report, and at length, as in the gage case, come forward to reap the credit and success, and to avoid the odium. Thus the gage commissioners were attacked and taken to task by the rival companies and the public, and the Board of Trade was never called to account. Legitimately speaking, the gage report was a Board of Trade report from Board of Trade men—Sir Frederick Smith and Professor Barlow; and we maintain that the railway termini report is also a Board of Trade report in its origin, in its character, and we trust in its fate.

Lord Dalhousie, the President of the Board of Trade, and Sir Frederick Smith, ex-Inspector General of Railways, and Chief Privy Counsellor of the Railway Department, were members and leading members of the Railway Termini Commission, the report of which has Sir Frederick Smith's stamp upon it. We think the public have a just cause of complaint in the continued employment of the gallant officers, who, like General Pasley, have been put to learn railway engineering after their appointments, and railway administration without knowing the rudiments of economical science. That the gallant officers are men of education, men of industry, and men of integrity, no one has ever doubted; but that from their previous pursuits they are qualified for

their appointments, no competent person has ever professed to believe. A choice more unpromising than that of two military schoolmasters to co-operate in mercantile undertakings could never have been made. A schoolmaster is a very bad man of business, and perhaps a soldier is a worse, though it is really impossible to institute an accurate comparison; but a combination of the two professions, in the masters of the engineering school at Chatham, might *d priori* be conceived to constitute the height of unfitness, if even experience had not proved it to us. Sir Frederick Smith's recommendations about breaking up goods' trains, and limiting the speed, will not readily be forgotten by those who have watched his career, not to name other mishaps in the way of railway management.

We are satisfied no merchant, we know no banker, would entrust Major General Pasley or Lieut. Col. Sir Frederick Smith even with his ledger, much less with any matter of business; yet to these gentlemen is the whole subject of railway management from time to time handed over for experiment, in despite of their professional unfitness, and the confirmed experience they have afforded of it. They are thus placed in a difficult and invidious position, having a glimmering of their ignorance, and ashamed and afraid to confess it. Confused with theoretical imaginations, and mystified occasionally by some of the more daring of the rival railway men (as on the gage question by Mr. Bidder) they are agitated by their theories, their prepossessions, their fears, and their desire of popularity; and bring forth those reports which are rejected by the contending parties, read by the public and then forgotten, and made the laughing stock of railway men. We can only hope that the end will be the discontinuance of such appointments, and that at an early date. Had Sir Robert Peel remained in power, this must have been the case; but under the Whigs, who were the inventors and have been the chief fosterers of the railway department of the Board of Trade, a little delay may be expected.

The government do not appoint majors-general and colonels to be commissioners for the reduction of the national debt, but they appoint merchants and bankers; and if they must appoint officers to look after railway traffic, the least they can do is to name men of business, who have some knowledge of their duties, and not parties who know nothing of business, never can know, and only do mischief by being allowed to meddle in what they do not understand.

We presume the Lord Mayor was named on the Metropolitan Railway Commission, because he was known or supposed to be unfavourable to the introduction of railways into the city, as indeed are most members of the corporation, arising from an ill-appreciation of the wants of the metropolis, not remarkable in individuals who do not generally fill a very high station in commercial circles, nor possess a very liberal training.

The district committed to the Metropolitan Commission was thus defined:—

“The limits to which the attention of the commission should be confined may be thus specified, viz.—the Edgeware-road from Oxford-street to the intersection of the New-road; the New-road and City-road to Finsbury-square; Bishopsgate-street; London Bridge; High-street, Borough; Blackman-street; Borough-road; Lambeth-road; Vauxhall-

road; Vauxhall Bridge; Vauxhall Bridge-road; Grosvenor-place; and Park-lane."

How extensive was the list of undertakings laid at the mercy of the commissioners may be known from the following enumeration:—

1. An Extension of the Eastern Counties Railway towards Finsbury-square.
2. An Extension of the Eastern Counties Railway to Fore-street.
3. The Tottenham and Farringdon-street Terminus.
4. The London and Birmingham Terminus at Farringdon-street.
5. The Direct London and Manchester Line, and the London and Manchester Extension to the City.
6. The North London Junction Railway.
7. The Regent's Canal Railway.
8. The Direct Northern Railway Terminus in Holborn.
9. The Extension of the London and Birmingham to the East and West India Docks
10. The Central Terminus in Farringdon-street.
11. The Great Western, Brentford, and Central Junction Terminus Railway.
12. The Thames Embankment Central Terminus.
13. The London Railway.
14. The London Connecting Railway and Railway Transit Line.
15. The National Junction Railway and City of London Terminus Company.
16. The North Kent Railway.
17. South-Eastern Extension to Waterloo Bridge.
18. The South-Western Extension from the York-road to London Bridge.
19. The West-End and Southern Counties Railway.

Having ascertained how many plans they had got to deal with, the commissioners proceeded to divaricate them, or apply some wonderful ontological process by which they might ascertain how many lines there were on the north of the Thames, and how many on the south:—

"The first point, therefore, which presented itself for our decision, was whether the same considerations apply equally to the admission of these two classes within the limits named to us; that is, whether the convenience or benefit which the public would derive from such admission bears in each case the same, or nearly the same proportion to the injury which would be sustained from the sacrifice of property, the interruption of thoroughfares, and the interference with future improvements?"

"It is our opinion that this is not the case,—and for the following reasons:—

"1st. Setting aside, for the present, the question whether any railway should be permitted to cross the Thames within the metropolis, the termini which would offer the greatest convenience, both to passengers and to goods conveyed by the southern railways, may be described to be Waterloo, or Hungerford Bridge, for the West of London; and London Bridge for the City. The immediate vicinities of these points are attainable by railways from the south, with much less disturbance of house property than would be caused by bringing the northern rail-

ways to points of comparatively equal convenience on the north side of the Thames.

"2ndly. The property to be disturbed is less valuable, and consequently the cost of furnishing the accommodation to the public would, on this account also, be proportionably smaller.

"3rdly. The thoroughfares to be crossed on the south side of the river are less important, and much fewer than those on the north.

"4thly. We have no evidence of any plans of street improvements having been suggested on the south side which would be interfered with by the projected lines of railway. The only contemplated improvement which could in any way be affected thereby, is the opening of a new and commodious thoroughfare from the Waterloo-road to the Borough; and we have reason for believing that this might be facilitated by the formation of a railway. The case is not so on the north.

"5thly. The ordinary traffic of the streets on the south side is not so great as on the north; it is less concentrated, and it runs through wider and more convenient channels; so that the additional traffic created by railway termini could be more easily accommodated.

"6thly. Those of the public who would be benefited by the close approach of the southern railways to the City and to the West-end of London are more in number than those who would derive advantage from bringing the northern railways into the centre of the metropolis; inasmuch as those parts of Surrey and Kent which are within a short distance of London, are generally more thickly inhabited by persons having occupations in London, and are more frequented for occasional relaxation than the corresponding parts of Essex, Middlesex, and Hertfordshire.

"7thly. The legislature has already sanctioned the formation of a line from the Nine Elms to the York-road, near Waterloo Bridge, and the construction of a terminus at the latter point."

They determine all these questions in the affirmative, and proceed to give the reasons for which they would deprive the north of London of railway extension. The commissioners think that in no way, with regard to the accommodation of the public, the relations of house property, the traffic in the streets, or the interference with plans of improvement already suggested, ought the large population in the north of London to be indulged with railway termini.

They think that it is a delusion on the part of railway passengers to imagine that they would get nearer to their homes by having the railway termini brought nearer. They admit that the termini at Paddington and Shoreditch are inconvenient, but they will not remedy them. They consider the Euston-square terminus, from "the opinion which they find to prevail generally and to be entertained by all those who are most competent to form a judgment on the subject," to be "on the whole conveniently situated for the great mass of passengers."

If the commissioners had said that the Euston-square terminus was "most inconveniently" situated, they would have said the truth, and they would have expressed the opinion of the great majority of the passengers. It may be a very convenient terminus for those first-class passengers who have their own carriages, or are able to pay cabmen *ad libitum*; but for the great majority of first, second, and third-class passengers, who have to make use of cabs, omnibuses, and their own

legs, the Euston-square terminus is very inconvenient, and particularly with late trains. Had the Commissioners taken the evidence of any bagman or any cabman, they could have learned this, and even Sir Frederick Smith's limited experience might have made him dubious.

During the day time the omnibus accommodation by the New-road is frequent, but the route by it to the city is circuitous, and by cab accompanied with a turnpike toll and an extra mile fare. On account of the bars on the Russell estate, the direct line of communication to the Inns of Court and Lower Holborn is impracticable, and an extra fare is caused. The only good omnibus communication besides the special omnibuses, which no one knows where to find, is up and down the New-road from Euston-square. There are no diverging roads from Euston Square, as it was never intended for a central point; and consequently the communication to it is circuitous, raising cab fares one half, and without traffic streets to encourage frequent omnibuses. To Sir Frederick Smith and Lord Dalhousie such things may be trifles; but the tradesman who has taken a day ticket on the Birmingham, grudges more the time and money lost in going and coming to the station, then he does the amount of the fare. This may be unreasonable in the eyes of the commissioners, but it is a piece of English nature which cannot be overcome.

The new street from the Hampstead-road over Waterloo-bridge to St. George's Fields will greatly improve the communications to Euston-square, if the bar is taken down in Gower-street; but whether there will be a frequent omnibus line is questionable, as the parallel line by Tottenham Court Road does not seem to be very remunerative. The cut through Leicester-square brings Piccadilly into a line with the Gower street communication, which may perhaps cause a diversion of the traffic now going from Islington by the New-road, Portland-road, and Regent-street to Chelsea.

The approaches to Euston-square station may be very much improved, and no doubt will be so, but to call it a convenient station in its present state is a decided misnomer. We have shown what it is for passenger traffic, but for goods it is still worse. What would improve it very much in its communication with the east of London, is a street from the bend of the City-road through Hoxton to Shoreditch station, and thence to the Commercial-road, Whitechapel, which would give what is a desideratum—a second east and west high road through London.

How the commissioners could prefer Euston-square when Farringdon street was proposed a terminus, it is not for us at the present moment to explain; but we apprehend the passengers would not support the opinion of the commissioners. From Farringdon-street a direct connection is effected with all the great lines of omnibus communication in the south, pouring the traffic east and west into all the thoroughfares of chief resort.

The distribution of traffic from Paddington terminus is very easy; but the station is so far from all places of business, that it might just as well be at Edgware for those persons who have to walk. Particularly for female, infant, and infirm third class passengers the distance is a most serious inconvenience, and we cannot understand persons professing a regard for the public refusing to remedy the evil.

The Shoreditch station is very bad, while an extension to Finsbury-square or Fore-street would be a great relief; but an improvement

might be effected by the line of street just suggested to Whitechapel Commercial-road on one side, and to the City-road at Hoxton on the other. By continuing Old-street through Wilderness-row to Clerkenwell-green, a practicable approach would be obtained to Holborn, and an alternative and shorter line to Fleet-street.

The commissioners say that the distribution of passengers from the various stations in London may be estimated to take place in the proportion of nine to the west and four to the east of a line drawn north and south through Temple-bar ; but how far these figures are to be depended upon remains to be proved.

A little further on, the commissioners give one of the usual illustrations of Board of Trade calculation ; for they state, that though an extension would be most valuable to the short traffic on metropolitan lines, the average distance travelled by passengers who arrive at the Euston-square station is not less than sixty-four miles. Taking the isolated case of the Birmingham, which has no local traffic, gives no information as to the Great Western, South Western, Eastern Counties, Blackwall, Greenwich, Dover, and Brighton. We dissent, too, from the commissioners' conclusion, that a saving of one or two miles is of no importance to long traffic passengers. The case does not stand as they put it, for the value of extension is not in saving time or money in a mile or two of extension, so much as in getting access to better accommodation. A passenger set down in Kentish-town, or in Camden-town, or in Battersea, finds, comparatively speaking, no accommodation ; but at the Bank, or other central station, he finds quick, cheap, frequent, and certain means of transit to take him to his own door, and it is this which he wants, and it is here he effects his saving of time or money, which, small as it may appear to the commissioners, is of value to him.

Upon this subject we may observe, that the most novel and extraordinary discovery of the commissioners is, that no accommodation is to be obtained from extension, and that passengers, shareholders, directors, and projectors have been under a delusion in imagining that any one of the lines proposed was in compliance with the public demand or the public wants. A total of nineteen lines projected, not by the stags, but most of them by established and respectable companies, constitutes a fact, which might impress any one but Sir Frederick Smith, that there must exist some strong cause impelling to such a development. Indeed, till the report of the commissioners appeared, we never heard that extension was not wanted ; but we have heard from nearly every chairman of a metropolitan railway, that it was imperative to comply with the public demand for better station accommodation. Like the proposed limitations of speed, the legislation of Sir Frederick Smith on station accommodation is unsuited to the spirit of the times, the public requirements, and the march of events.

Had the several plans for termini come before committees of the House of Commons, evidence would have been given of their public utility, and some of them would have been passed and carried into effect. This is the good practical working of parliamentary committees, however much they may be depreciated for particular purposes, and however defective they may be on other points. These committees do something ; they may not be able to carry out grand theories of

systematic centralization, but they do not keep the public standing still, as the Board of Trade and their satellites would do. By this Railway Termini Commission, a serious delay has taken place in the progress of important works, and for what? For the elaboration of a report, which wants every element of soundness and stability.

One of the pleas made for keeping passengers out of London, and making circuitous communication, is, that Her Majesty's Quartermaster General and the Inspector General of Fortifications have given their opinion, that while, with a view to the national defence, it is of the utmost importance to establish an unbroken connection between the railways of the north, south, and west, a circuitous communication round London would, for military purposes, be preferable to one which should necessitate the conveyance of Her Majesty's troops or stores through a populous part of the metropolis! As if, in this country of England, we were to bother ourselves with how the troops are to be accommodated in time of war; and as if the real strength of the country, its trade, were to be disregarded and impaired out of consideration for a standing army! When war comes, we can prepare for it from the fruits of our trade; with us it is not *arma fulcra pacis*, but peace is our grand help for providing the fitting instruments of war. The proposition that the public accommodation is to be slighted for the sake of a standing army of ten or twenty thousand soldiers is technical, but is unsuitable to our country or our institutions. The accommodation of the warehousemen in Wood-street and Cheapside, which the commissioners set aside, will, in the public mind, claim a greater attention than they seem to have obtained from the military prompters of the report now before us.

After the examples we have given of Sir Frederick's reasoning, our readers will not be surprised at another chief ground of his opposition to the public demands. This he rests on the interruption which would result from the crowding of the great thoroughfares, and which would consequently require the improvement of those streets. Because the corporation of London and the Commissioners of Woods and Forests have neglected their duties, and because one improvement will lead to another, the whole course of improvement is to be checked. The parliamentary plan, and the English plan, and the common sense plan, is the best. Make the railway extensions first, and then widen the thoroughfares. Do not put the cart before the horse, and wait for the widening of the thoroughfares, which will take place no one knows when, unless there is a strong pressure from without.

The Thames embankment, which would give such a relief to that most crowded thoroughfare of Fleet-street and the Strand, has been delayed year after year, century after century, and is now shelved for awhile. The removal of Temple-bar and Middle-row, Holborn, is as far off as ever. The widening of Watling-street has been long before the city corporation, but nothing has been done. The widening of the Poultry is not even contemplated. The new street from St. Paul's to Chancery-lane is in the portfolio of Mr. Lambert Jones, and there is hope of it; but it is wanted now. The way in which the improvement of Holborn-hill shall be effected is not settled yet, nor does it seem likely to be, under such care as these matters now are; and with such experience as we have, we cannot contemplate with complacency the post-

ponement of essential railway improvements, because we believe these railway improvements will stimulate the proceedings of the local authorities.

The commissioners give their reasons for rejecting the several plans submitted to them, and they are generally inconclusive and exceptionable. They reject the extensions of the Eastern Counties railway to the Artillery Ground or Fore-street, because they "are of opinion," the traveller would gain very little by the prolongation. Either of these termini would be close to the Bank, and would have access to the Manchester warehouses, to Smithfield, Holborn, the Strand, White-chapel, and the Docks, without interfering with either Cheapside or Cornhill.

The Tottenham and Farringdon-street terminus shares the same fate. As if Sir Frederick were desirous of showing how little he knows about London traffic, he recommends that if this line should in any way be sanctioned, it should be made to stop on the north side of the city road, where, he says, "it will confer as much convenience on the public as in Farringdon-street."

The Farringdon-street line would accommodate all Islington, the New-road, City-road, and Goswell-street-road, and at Farringdon-street it would come into connection with all the great thoroughfares. Its neighbourhood to the Manchester warehouses, Smithfield, and the Inns of Court, ought surely to be a sufficient recommendation, besides the support of the great Companies. The London and Birmingham however have subsequently withdrawn, from the desire of withholding, as long as possible, the required public accommodation.

The North London Junction meets with a certain degree of favour, so far as it is a circuitous line to the docks, and exclusive of its metropolitan approaches.

The Regent's Canal Railway is rejected generally, though it certainly is not open to the objections of the commissioners in interfering with thoroughfares and property, so far as its main line is concerned.

The objection to the London and Birmingham Extension to the docks is that it would cross the Blackwall Railway on a level.

On the south of the Thames the lines meet with more favour, particularly the North Kent Extension to Union-street. Union-street seems to be the commissioners' beau ideal of a convenient city terminus, though we believe the public voice would decide that it is most inconvenient.

The South Eastern Extension to Waterloo-bridge is less favourably received. It is run down on every point, and all available objections seized upon for its condemnation. This seems to favour of partiality.

The South Western Extension to York-road is recommended, and this and the North Kent Line are the favoured out of nineteen candidates.

The following are the descriptions of the plans in detail, and the commissioners' reasons for dealing with them :—

"1. *An Extension of the Eastern Counties Railway towards Finsbury-Square.*

"It is proposed to effect this by carrying the line across the City-road

Shares.	Railways.	Paid.	CLOSING PRICES.			
			June 4.	June 10.	June 17.	June 24.
50	London and York	£ 24	4 — 1/2 dis	4 — 1/2 dis	4 — 1/2 dis	1 1/2 — 0 1/2 dis
25	Do. 1/2 Shares	24	.. ..	.. ..	.. ..	.. ..
50	London, Warwick, and Kidderm	2 1/2	.. ..	.. ..	.. ..	.. ..
50	London, Salisbury, and Yeovil.	24	1 — 0 1/4 dis	1 — 0 1/4 dis	1 — 0 1/4 dis	1 — 0 1/4 dis
50	Londonderry and Coleraine	10	6 — 4 dis	6 — 4 dis	6 — 4 dis	6 — 4 dis
50	Londonderry and Enniskillen	10	.. ..	.. ..	.. ..	.. ..
25	Lynn and Ely	15	2 1/2 — 1 1/2 dis	3 — 2 dis	3 — 2 dis	3 — 2 dis
25	Lynn and Dereham	10	4 — 3 dis	4 — 3 dis	4 — 3 dis	4 — 3 dis
100	Manchester and Leeds	82	40 — 45 pm	40 — 45 pm	40 — 45 pm	33 — 38 pm
50	Do. 1/2 Shares	38	18 — 22	18 — 22	18 — 22	15 — 20
25	Do. 1/4 Shares	2	7 1/2 — 8 1/2	7 1/2 — 8 1/2	7 1/2 — 8 1/2	6 1/2 — 7 1/2
20	Do. Fifths	3	9 — 10 pm	9 — 10 pm	9 — 10 pm	8 — 9 pm
6 1/2	Do. Sixteenths	6 1/2	3 — 3 1/2 pm	3 — 3 1/2 pm	3 — 3 1/2 pm	3 — 3 1/2 pm
20	Do. Extension	42s.	2 1/2 — 3 pm	1 1/2 — 2 pm	2 — 2 1/2 pm	1 1/2 — 2 pm
4 1/2	Manchester and Birmingham	40	80 — 82	80 — 82	81 — 83	81 — 83
10	Do. 1/2 Shares, A	4	8 1/2 — 9 1/2	9 — 9 1/2	9 — 9 1/2	9 1/2 — 9 1/2
10	Do. do. B	4	8 1/2 — 9 1/2	8 1/2 — 9 1/2	9 — 9 1/2	9 1/2 — 9 1/2
10	Do. do. C	1	8 — 8 1/2	7 1/2 — 8 1/2	8 — 8 1/2	8 1/2 — 8 1/2
	Do. Contin. and Welsh June.	1	.. ..	.. ..	.. ..	.. ..
20	Manch. Buxton and Matlock	42s.	.. ..	.. ..	.. ..	.. ..
20	Manchester and Southampton	2	.. ..	.. ..	.. ..	.. ..
Stock	Midland	100	140 — 151	148 — 150	148 — 150	148 — 150
	Do. New	18	13 1/2 — 14 1/2 pm	13 — 14 pm	12 1/2 — 13 1/2 pm	13 — 13 1/2 pm
Stock	Do. Birmingham and Derby	109	122 — 124	122 — 124	122 — 124	121 — 123
25	Newcastle & Darlington June.	25	19 — 21 pm	19 — 21 pm	20 — 22 pm	20 — 22 pm
	Do. New	1	8 — 9	0 1/4 — 7 1/2	7 1/2 — 8 1/2 pm	8 — 9
25	Do. New Brantling	25	18 — 20 pm	18 — 20 pm	19 — 21 pm	19 — 21 pm
25	Newcastle and Berwick	15	9 1/2 — 10 1/2	8 1/2 — 9 1/2	9 1/2 — 10	9 — 10
25	Newark, Sheffield and Boston	1 1/2	1 — 0 1/2 dis	1 — 0 1/2 dis	1 — 0 1/2 dis	1 — 0 1/2 dis
20	Norfolk	20	5 — 6 pm	5 — 6 pm	5 1/2 — 6 pm	5 — 6 pm
10	Do. 1/2 Shares	5	2 1/2 — 3 1/2	2 1/2 — 3 1/2	2 1/2 — 3 1/2 pm	2 1/2 — 3 1/2 pm
2	Do. Tenths	2	.. ..	.. ..	.. ..	.. ..
20	Do. Extension	2	1/2 dis par	1/2 dis par	1/2 dis par	1/2 dis par
25	North British	22 1/2	7 — 7 1/2 pm	6 — 7 pm	7 — 7 1/2 pm	6 1/2 — 7 1/2 pm
12 1/2	Do. 1/2 Shares	8 1/2	2 1/2 — 3 1/2	2 1/2 — 3 pm	2 1/2 — 3 pm	2 1/2 — 3
12 1/2	Do. Carlisle Extension	1 1/2	1/2 — 1/2 pm	1/2 — 1/2 pm	.. ..	.. ..
25	Do. Dalkeith	25	.. ..	.. ..	.. ..	.. ..
5	Do. do.	5	.. ..	.. ..	.. ..	.. ..
50	Northern and Eastern	50	69 — 71	69 — 71	71 — 74	73 — 75
50	Do. Scrip (issued at 5 disc.)	40	20 — 23 pm	20 — 23 pm	21 — 24 pm	22 — 24 pm
12 1/2	Do. 1/2 Share	12 1/2	17 — 18	17 — 18	17 1/2 — 18 1/2	18 — 19
	Do. New	1	18 — 20 pm	18 — 20 pm	19 — 21 pm	19 — 21 pm
50	North Kent and Direct Dover	2 1/2	1 1/2 — 1 dis	1 1/2 — 1 dis	1 1/2 — 1 dis	1 1/2 — 1 dis
20	North Staffordshire	42s.	3 1/2 — 3 1/2 pm	2 1/2 — 3 1/2 pm	3 1/2 — 4 pm	3 1/2 — 3 1/2 pm
25	North Wales	3 1/2	.. ..	.. ..	.. ..	.. ..
	Northampton, Banbury, and Cheltenham	2	1 — 0 1/2 dis	1 — 0 1/2	1 — 0 1/2 dis	1 1/2 — 0 1/2 dis
20	Norwich and Brandon	20	.. ..	.. ..	.. ..	.. ..
10	Do. New	5	.. ..	.. ..	.. ..	.. ..
50	Oxf., Worcester, and Wolverh.	12 1/2	4 1/2 — 3 1/2 dis	4 1/2 — 4 dis	4 1/2 — 3 1/2	5 — 4 dis
	Perth and Inverness	2 1/2	.. ..	.. ..	.. ..	.. ..
50	Portsmouth Direct	3 1/2	1/2 dis	1/2 pm	1/2 dis par	1/2 — 1 pm
25	Preston and Wyre	25	29 1/2 — 30 1/2	30 — 31	30 — 31	30 — 31
20	Do. 1/2 Shares	2 1/2	.. ..	.. ..	.. ..	.. ..
25	Richmond	10	5 — 7 pm	5 — 7 pm	5 — 7 pm	6 — 7 pm
2 1/2	Rugby and Huntingdon	2	.. ..	.. ..	.. ..	.. ..
25	Scottish Central	10	5 1/2 — 6 1/2 pm	5 — 6 pm	5 — 6 pm	5 — 6 pm
	Do. New	2 1/2	.. ..	4 — 5 pm	4 — 5 pm	4 — 5
25	Scottish Midland	10	4 — 2 dis	4 — 2 dis	3 1/2 — 2 1/2 dis	3 1/2 — 2 1/2 dis
25	Shrewsbury, Wolverhampton, and Sth Staffordshire June.	2 1/2	.. ..	.. ..	.. ..	.. ..
25	Shrewsbury and Birmingham	2 1/2	1/2 — 1/2 pm	1/2 — 1/2 dis	1/2 dis — 1/2 pm	1/2 dis — par
	Shrewsbury and Hereford	.. ..	.. ..	.. ..	.. ..	.. ..
20	Shropshire Union	42s.	1 1/2 — 0 1/2 dis	1 1/2 — 1 dis	1 1/2 — 1 dis	1 1/2 — 1 dis
50	South Devon	35	2 dis par	2 dis par	2 dis par	2 dis par
20	South Midland	42s.	1/2 — 1/2 dis	1/2 — 1/2 dis	1/2 — 1/2 dis	1/2 — 1/2 dis
	South Staffordshire Junction	.. ..	.. ..	.. ..	.. ..	.. ..
Average	South Eastern and Dover.	33s. 4	39 — 40	39 — 40	39 — 40	39 1/2 — 40 1/2
50	Do. New (isd. at £32 No. 1.	16	3 1/2 — 4 1/2 pm	3 — 4 pm	3 1/2 — 4 1/2 pm	3 1/2 — 4 1/2 pm
50	Do. New (£33 6s. 8d.) No. 2.	10	3 1/2 — 4 1/2	3 — 4	3 — 4 pm	3 — 4
	Do. New (£30) No. 3.	15	3 — 4 pm	3 — 4 pm	3 — 4 pm	3 — 4 pm
25	Do. New (isd. at £15) No 4.	2 1/2	1/2 — 1/2 pm	1/2 dis — 1/2 pm	1/2 dis — 1/2 pm	1/2 dis — 1/2 pm
20	Staines and Richmond	1	1/2 — 1/2 dis	1/2 — 1/2 dis	1/2 — 1/2 dis	1/2 — 1/2 dis
20	St. Alban's, Hatfield, & Hertford Junction	42s.	.. ..	.. ..	.. ..	.. ..
50	South Wales	5	3 1/2 — 2 1/2 dis	3 1/2 — 2 1/2 dis	3 1/2 — 2 1/2 dis	3 1/2 — 2 1/2 dis
20	Tean and Dose Valley	1 1/2	.. ..	.. ..	.. ..	.. ..
20	Trent Valley and Holyd. June.	2 1/2	.. ..	.. ..	.. ..	.. ..
20	Vale of Neath	2	.. ..	.. ..	.. ..	.. ..
20	Warwickshire and London	4s.	.. ..	.. ..	.. ..	.. ..
20	Waterford and Kilkenny	8	4 — 3 dis	4 1/2 — 3 1/2 dis	4 1/2 — .. dis	4 1/2 — 3 1/2 dis
	Waterford, Wexford, Wicklow, and Dublin	1 1/2	.. ..	.. ..	.. ..	.. ..
20	Welsh Midland	2 1/2	.. ..	.. ..	.. ..	.. ..

John-street, whence it would be carried in a curve to the north-west angle of West Smithfield, to a space proposed for the terminus, and bounded by Skinner-street, Farringdon-street, and the Old Bailey. This line would be about $5\frac{1}{2}$ miles in length, and the entire estimate is £1,200,000. A tunnel would carry the railway through Clapton-hill. From Kingsland-road to the City-road, the line would be in an open cutting, and from the City-road to Skinner-street there would be a continuous tunnel of more than a mile in length.

“If this line should in other respects receive the sanction of parliament, it should be on the condition that its terminus is placed on the north side of the City-road, where it would confer as much convenience on the public as if it were placed in Farringdon-street; while the Company would save a very great and unnecessary expense; the invasion of private property would be avoided; and the public would escape the inconvenience that would result from the crowding of some of the principal thoroughfares of the city.

“4. *The London and Birmingham Terminus at Farringdon-street.*

“It was proposed by the London and Birmingham Company to construct a line from their goods’ station at Camden-town, which, after crossing College-street, Kentish-town, would have been carried in a direct course to the angle formed by the intersection of the Holloway-road with William-street, and thence would have proceeded across the New-road, near Winchester-place, by the north-east side of the New River Head, to form a junction with the Tottenham line, near the north end of St. John’s-street.

“By this means the terminus of both Companies would have occupied the area inclosed by Farringdon-street, Skinner-street, the Old Bailey, and Ludgate-hill, (excluding the houses on the north side of Ludgate-hill, and a few adjacent houses in the Old Bailey).

“This project was designed by the Birmingham Company, as a means of delivering to the public, at a reduced rate, such goods as might be destined for that quarter of the City, and also of providing a few trains for the convenience of short traffic to and from the City. But Mr. Glyn, the chairman, and Mr. Creed, the secretary to the Company, having stated in their evidence that they have abandoned this scheme, firstly, because it is not required for the public convenience, and secondly, on account of the large capital which the construction of such a work would demand, it is unnecessary for us to take any other notice of this project, than to say that the reasons for its abandonment appear very conclusive and sufficient.

“5. *The Direct London and Manchester Line, and the London and Manchester Extension to the City.*

“For the Direct London and Manchester it is proposed to have a terminus at Battle-bridge, near the City-road; and for the London and Manchester Extension to the City, it is proposed to have a western terminus, bounded by Holborn-hill, Farringdon-street, Shoe-lane, and Harp-alley, as well as an eastern terminus enclosed by Victoria-street, West-street, King-street, and Skinner-street.

“The line down the Fleet valley would be by a subway, partly formed by tunnelling, and partly by open cutting.

“ Neither of these lines is now before parliament.

“ The estimate for the extension into the City is £750,000, the distance being 2 miles 2 furlongs and 7 chains.

“ The lines are shown on the map as starting from Holloway, and running, within a short distance of each other, down to the City-road.

“ The terminus at Battle-bridge seems well calculated for the Manchester and London and the intermediate traffic. But the separate branch, commencing at Lower Holloway, and passing through a considerable extent of the City, for the purpose of establishing a terminus at Farringdon-street and Skinner-street, is, in our judgment, quite inadmissible.

“ 6. *The North London Junction Railway.*

This line, which comprehends the branch already described as commencing on the Eastern Counties' Railway at Bearbinder's-lane, is intended to connect the Great Western and London and Birmingham Railways with the Eastern Counties' line. Commencing on the west at the Paddington station, it would take a north-easterly direction, passing through Portland-town, above Lord's Cricket-ground, so as to form a junction with the London and Birmingham Railway near the goods terminus at Camden-town. At that point it would turn to the eastward, crossing the Kentish-town and Camden-town roads, and running down nearly to Frog-lane, whence one branch would, as already described, be carried to join the Eastern Counties line near Bearbinder-lane, and another would proceed direct to the Fore-street terminus. The distance from Paddington to Fore-street, by this line, would be 6 miles.

“ The terminus is proposed to occupy a space of 11 acres, and the whole cost of the work and purchase of the property is estimated at £1,392,829; as already mentioned, there will be 1¼ mile of viaduct from Islington to Fore-street.

“ We are of opinion that this line presents considerable commercial and other advantages, in so far as its main trunk would, to a limited extent, answer the purposes of such a line as we have ventured to recommend in the first part of our Report; that is, a line encircling London, connecting all the railways entering the town with each other, and with the docks, and thereby enabling an unbroken communication to be maintained between all parts of the country through the metropolis.

“ We are not, however, prepared to say that the line which the North London Junction Company propose to take is, even so far as it goes, the best for this purpose. The ground over which such a railway as we have suggested would most conveniently pass, would lie beyond the limits of our enquiry; and for this reason we have not entered into any comparison of the merits of the North London Junction line with other lines, or portions of lines of a like nature, which we shall have to notice hereafter.

“ As to that branch, however, of the present scheme which would come to Fore-street, and therefore within our limits, we are of opinion that it is open to the same objections as apply to other proposed extensions to termini in the City.

“ 7. *The Regent's Canal Railway.*

“ The capital of this line (which is not before parliament) was intended to be £3,000,000, of which £1,000,000 was to be paid for the canal.

“ This railway would, with a few slight deviations, have kept the line of the canal. The leading feature of the project was to unite all the railways north of the River Thames with the Post-office and with the docks of the port of London.

“ The terminus was intended to occupy an area of 8 acres, and to be placed at Aldersgate-street, by which it would be bounded on the west, having Barbican for its northern limit.

The line was to commence at the Paddington station of the Great Western Railway, and to proceed, according to the present course of the canal, as far as that point which is nearly opposite to the end of the grand avenue in the Regent's-park, where it would branch off in three directions; the northern branch curving to the left to form a junction with the London and Birmingham Railway at the Camden-town goods' station, and the southern branch running down to the basin, near the back of the Life Guards' barracks. The centre line, which indeed in the main trunk of this scheme, would be carried through Pentonville to Islington, where a branch would be constructed by one of the two alternative lines shown on the plan, to the point of their junction at the intersection of Old-street and Golden-lane, whence one line would be formed direct to Barbican.

“ From Islington, the main line of the railway would continue by the course of the canal to the south angle of Victoria Park; there a branch would go to the north-east, while the main line would keep a southerly direction towards the Thames, until arriving at a point south of the Mile-end-road, it would separate into two branches; one westward to the basin of the Regent's canal, and the other eastward to the West India and East India Docks.

“ The observations which we have made upon the North London Junction apply also to this line. And for the reasons which have already been given, its central terminus in Aldersgate-street cannot be recommended.

“ 8. *The Direct Northern Railway Terminus in Holborn.*

“ The Company associated for the purpose of forming the Direct Northern Railway, in the first instance, contemplated establishing their terminus on the north side of the City road, near King's-cross, in a space abutting to the east on Maiden-lane, and to the south on Weston-place.

“ Subsequently they proposed to leave the main line half a mile north of the originally intended terminus, and to carry their railway nearly parallel to Gray's Inn-lane, terminating in a space enclosed by Holborn on the south; Gray's Inn-lane on the west; Baldwin's-gardens on the north; and Leather-lane on the east.

“ This line would be throughout on a viaduct. The estimate for the works, and for the purchase of the property required, is £580,000, as applicable to the London and York traffic, to which it is proposed to

assign a terminus of about three acres in extent ; the remainder of the space, viz., five and a-half acres, being reserved for other northern lines. The purchase of this latter area is not included in the above stated sum.

We consider that no public advantage, commensurate with the amount of inconvenience it would create, is likely to result from establishing the terminus of the Direct Northern Railway at Holborn ; and it appears to us, that it would be more convenient, and much less expensive, to place it on the north side of the City-road.

“ 9. The Extension of the London and Birmingham to the East and West India Docks.

“ Beyond the limits referred to this commission, there is shewn on the plan the course of a line proposed by the London and Birmingham Company to connect their goods station with the West India Docks.

“ Starting from Camden-town, it would run past the Model Prison to the north of Islington Cattle-market, and taking nearly a straight course between Hackney and Homerton, would proceed on to Hackney Wick. There it would turn to the south, and continue in nearly a straight line to the east end of the West India Docks. It would cross the Eastern Counties line ; and it is stated to be the intention of the Birmingham Company to cross the Blackwall Railway on the level. This would be particularly objectionable, and should be avoided. In other respects the observations which have been made upon the North London Junction line apply to this scheme.

“ 10. The Central Terminus in Farringdon-street.

“ Mr. Charles Pearson has brought under our notice a project, which, it would appear, has long occupied his attention, for forming a grand central terminus at Farringdon-street.

“ He recommends a trunk railway consisting of three double lines to run from Battle-bridge to his proposed grand terminus at Farringdon-street, for the use of such of the northern, north-eastern, and north-western lines, as should desire to have a terminus in the centre of the City, and who should be inclined to contribute fairly towards its formation.

“ Mr. Pearson would carry the line of railway between two rows of houses, which he proposes to build so as to form a spacious and handsome street, 80 feet in width and 8,506 feet in length. The railway to be on the basement level, and to be arched over so as to support the pavement of the street, which would be on the level of the ground floor of the houses. Mr. Pearson proposes to give light and air to the railway by openings in the carriage-way and footpath.

“ There would be two contiguous termini, one being on the western and the other on the eastern side of Farringdon-street. The area occupied by both would be 500,000 feet. Mr. Pearson purposes a very ingenious arrangement of his terminus with a view to economising space ; but his scheme is open to the same objections as apply to all other City termini, and we therefore cannot recommend it.

Mr. Pearson has also placed before us plans for improving the habitations and increasing the comforts of persons of the middle and lower classes, by means of a railway in connection with a suburban

village, which are ingenious and highly creditable to him. But on these it is not for us to offer an opinion.

“ 11. *The Great Western, Brentford, and Central Junction Terminus Railway.*

“The promoters of this project, for which a Company has not been formed, intend that it should leave the Great Western at West Drayton, and pass through Hounslow, Brentford, Turnham-green, Hammersmith, Brompton, Chelsea, Pimlico, and Westminster, and meet the Thames Embankment Line at Hungerford.

“It is also designed that this railway should be the means of bringing the London and Birmingham traffic to the same southern terminus by means of the West London Line; and that it should receive the traffic of the Direct Exeter Railway, should such a line be formed.

“It is proposed to have four lines to accommodate the short traffic as well as that coming from the two long lines. The trains to be propelled on the atmospheric principle.

“The engineer of the Brentford Junction proposes to take a low level, so as to pass under the roads and streets in coming into London; and it has been suggested by Mr. Moffatt, the architect, that from Pimlico to Westminster the line should be laid down in a railway street, the opposite sides of which should be 160 feet apart, having rows of trees on each side of the railway.

“It is further intended, if the London and Birmingham and Great Western railway traffic should be brought in by this line, that an ample station should be provided in that part of Westminster which is behind the Mews and Westminster Hospital; and in this case the Mews would be taken by the railway company. Thence the line would pass under the junction of Great George-street and Parliament-street, and be brought into connexion with the Thames' Embankment in front of and under the terrace of Whitehall-gardens; but in such manner that the railway would not be visible from the gardens.

“Proceeding eastward from Whitehall-gardens, the railway would rise to a higher level, so as to correspond with the top of the embankment at Hungerford-bridge. The line would pass under the first arch of Waterloo-bridge, then rise from Somerset-house to a level of 42 feet above the Trinity-datum in front of the Temple-gardens, and pass over the north end of Blackfriars-bridge by a viaduct. Thence it would be carried through the City, crossing King William-street, to form a connexion with the Blackwall Railway. In front of the Temple-gardens the railway would be 38 feet above the carriage-way on the proposed embankment. Between Blackfriars-bridge and the Blackwall terminus a railway street would be formed, having a width of 75 feet between the opposite houses; the carriage way being under the railway. At King William-street, the viaduct would be at such an elevation as to leave 20 feet head-room for loaded waggons.

“The projectors of the Thames Embankment Railway Company propose to construct the embankment free of cost to the public, provided they are permitted to form the Hungerford and Blackwall Railway.

“The estimate from Hungerford-market to Blackfriars, including the Thames embankment for that portion, is £500,000.

“The estimate from West Drayton to Hungerford is £1,100,000.

There would be stations at Hungerford, Waterloo-bridge, Blackfriars-bridge, King William-street, and at Fenchurch-street, where additional ground would be taken to enlarge the present station.

“ It is also a part of this project to form a junction with the London-bridge station of the Dover, Brighton, and Croydon Railways, by carrying a double line of rails over the present carriage road of London-bridge. This, however, as well as the crossing of the Southwark-bridge in the same manner, to join the North Kent Railway, would have been independent parts of the general scheme.

“ To that portion of this line by which, leaving the shore of the river, it is proposed to connect the embankment with the Blackwall terminus in Fenchurch-street, all the objections which we have pointed out to the passage of a railway through a populous and busy part of the City apply in their fullest force.

“ We also see great objection to a railway being carried across any of the bridges at a level so high as to allow of the carriage and other traffic remaining undisturbed. The advantage of an economy of space effected by such an arrangement would be more than counterbalanced by the necessity which it imposes of approaching the bridge on a viaduct; which of all the methods by which a railway can be carried through a town is the most inconvenient and injurious to property.

“ As regards that portion of the line which would connect the Great Western Railway and the neighbourhood of Hounslow, Brentford, &c., with a terminus in Westminster, we are of opinion that the wants and convenience of the district through which this line would pass might be equally well served by one which should carry passengers and goods to the already existing station of the South-Western Railway at Nine Elms, and to the other terminus of that line, already sanctioned by parliament, at Waterloo-bridge. And therefore we are not disposed to recommend the establishment of a terminus in the heart of Westminster, at the expense of much interference with property, and probably with future improvements in that part of the metropolis.

“ There remains that portion of the scheme which would follow the line of the Thames' Embankment. To this, unconnected with any terminus for the reception of traffic from distant parts of the country, and used solely as a line of short passenger traffic, in the manner of the Blackwall Railway, we are not prepared to raise any objection. We are, on the contrary, disposed to think that such a line might be a convenience to the public; at all events it would draw off a considerable portion of the overcrowded traffic of Fleet-street and the Strand; and, therefore, that if it can be so constructed as not to disfigure the embankment, or to cause any additional interference with the traffic of the river, and with the convenience of wharfs and warehouses, or any deterioration of private property, it will deserve the consideration of parliament.

“ In the doubt which exists as to the formation of an embankment, we have not thought it necessary to examine closely how far the above conditions might be complied with; but if an embankment of the river should be sanctioned by parliament, we have no reason to think them impracticable.

“ 12. *The Thames Embankment Central Terminus.*

“ Mr. Page the engineer, has informed us that the Central Terminus Company propose to subscribe money for the construction of a central portion of the Thames embankment, provided they may have space on the embankment for a grand terminus between Waterloo and Hungerford-bridge.

“ The confusion that would result from any central terminus, for the accommodation of several railways, is a matter so generally admitted, and so strongly insisted on by persons the most experienced in railway matters, that such a project could scarcely be entertained, even if ample approaches were formed to it ; but any such terminus, which would have to be approached by the narrow and much-thronged thoroughfare of the Strand, as it now exists, would, it appears to us, be a great public evil.

“ 13. *The London Railway.*

“ Mr. James Clephan has submitted to us the general outline of the London Railway, the object of which is stated to be, to form a connection with all the existing termini in the vicinity of the metropolis, going partly through the town, and principally constructed on a viaduct.

“ Mr. Clephan describes the line as follows.—starting from Blackfriars-road, it is proposed to cross Waterloo-bridge and the Strand, and to pass up Bow-street into Tottenham-court-road ; thence a branch would pass along Paddington-street, and Crawford-street, to the Great Western Railway ; and pursuing a course to the New-road, the line would skirt the reservoir in the Hampstead-road, and join the Birmingham Railway at Euston-square. Proceeding still further eastward, the line would pass through Somers-town, and rejoin the New-road at Pentonville. At King's-cross it would be connected with the London and York Line, if that railway should be made. From King's-cross, the line would proceed down the City-road, and take such a direction as to join the Eastern Counties Railway. From Shoreditch, it would pass through St. Mary Axe and Lime-street, into King William-street, which it would cross, as well as Thames-street and Southwark-bridge ; and from the south side of the bridge the line would curve into Union-street, and continue on until it reached Blackfriars-road, at the point from which it started.

“ Mr. Clephan also stated that, from Fenchurch-street there would be a branch to the London and St. Catherine's Docks, and that from Union-street there would be a branch to the Greenwich and Brighton station at London-bridge ; and that there would be likewise a branch to join the South Western Railway.

“ It appears that this scheme is estimated to require a capital of £5,000,000, of which £3,300,000 would be necessary for the purchase of the houses to be removed by this railway.

“ Although a Company has been formed for this scheme, no deposits have been made, nor are there any surveys of the line.

“ As its projectors contemplate occupying two of the bridges over the Thames, and passing through the heart of the metropolis in two directions in a most objectionable way, we consider this scheme altogether inadmissible.

“ 14 *The London Connecting Railway, and Railway Transit Line.*

“ This project has been brought before us by Mr. John Martin, K.H., who gives a general description of it in a paper dated May 1846.

“ Commencing at Barking-creek, this line would run along the north bank of the Thames, to a point in Woolwich-reach, nearly opposite to Bugsby’s-marsh, where a branch would diverge towards a station to be placed near the north-east angle of the East India Docks ; at which point it would meet a line also starting from Barking-creek, but passing over the levels 200 or 300 yards north of the river. From this point of junction, the line would pass between Mile-end Town and Stratford-le-Bow, close to the south side of Victoria-park, through Hackney, above Islington, and through Kentish-town. From thence it would curve round between Hampstead-hill and Primrose-hill, continuing the curve so as to pass Shepherd’s Bush, Hammersmith, and Waltham-green, and crossing the Thames above Battersea. From that point it would sweep round to form a junction with the South Western Railway at the Nine Elms Station ; and thence proceed to Lambeth, where, opposite the Obelisk, a grand terminal station would be established for the Dover, Brighton, and South-Western Railways. From that terminus the line would proceed in a curve towards Rotherhithe, where it would separate into branches, each taking the course of the south bank of the river ; one eastward along Greenwich-reach, and the other westward, intersecting all the bridges from London-bridge to Vauxhall, and terminating at a station near a bridge which Mr. Martin proposes to construct over Chelsea-reach.

“ Mr. Martin proposes to have a continuous line of railway along the north bank of the river, from Barking-reach to Chelsea ; and he proposes further to have a branch from the river side, near Limehouse, up to Stratford, and another from Blackfriars-bridge, passing the north side of the Tower to the north of St. Catherine’s and the London Docks, and joining the former branch at Stepney. He also suggests that, in connection with his railway, there should be a great northern dépôt at Shoreditch.

“ The object which Mr. Martin has in view is to connect the northern and southern railways ; to afford to travellers a facility of transit from one metropolitan district to another ; and to facilitate the transmission of merchandise and coals from the river to various parts of the metropolis, as well as to the different railway stations ; for this last purpose he proposes to construct (as shown in his plan) 70 floating-piers on the north bank of the river, and 51 on the southern bank.

“ It appears that Mr. Martin has neither prepared detail estimates nor surveys of any part of the scheme he has submitted to us ; and therefore it is not possible to enter very minutely into its merits. But it is quite evident that to carry it into execution would require an enormous outlay of capital ; and we can conceive no commensurate advantages in the construction of a very expensive railway along both banks of the Thames, or in the construction of his numerous floating-piers, which, it appears to us, would very materially interfere with the general navigation of the river.

“ The line from Blackfriars-bridge to Stepney is open to the same objections as those we have represented to exist to other lines passing through the City.

“The greater proportion of Mr. Martin’s project being beyond the limits of our enquiry, we are precluded, even if we had the means, of drawing a comparison between this and other projects for connecting the northern and southern railways.

“15. *The National Junction Railway and City of London Terminus Company.*

“No company has been formed for this project. The object of its promoters is to connect the southern and northern railways, and to make one general terminus in the City. No general plan was produced to the commission; the surveys of the line are not complete; neither has any estimate been formed of the probable cost of the work.

“It is proposed to allot 10 acres in the City for their central terminus, which would be at or near Farringdon-street, and to provide wharfs and stations on both sides of the Thames. A direct line of communication would be formed from the south-eastern parts of the Borough of Southwark to the north-west, by King’s-cross to Camden-town.

“It is proposed to pass 18 feet below the level of the present surface of Fleet-street by open cutting, across the high ground of New-street-square, under the present level of the surface of Holborn-hill, and by open cutting to Black-hill.

“The promoters of this scheme contemplate communicating with the Great Western, by passing round the Regent’s-park, by St. John’s-wood and Maida-hill; but the whole project is in so undigested and imperfect a state, that we cannot form any just opinion either of its merits or defects.

“On the south side of the Thames, the schemes which come within the limits prescribed in our instructions are as follows:

“1. *The North Kent Railway.*

“Taking up the line from New-cross, it would proceed towards Union-street, through Lock’s-fields, across the New Kent-road, passing between the County Gaol and Trinity-square. At New-cross it would be carried over the Croydon Railway, having a back branch to admit the traffic from Brighton and Croydon. There would be a branch into the New-cross station communicating with London-bridge, and further eastward another branch which would be in connection with the Greenwich Railway.

“The principal terminus of the North Kent Railway is proposed to be at Union-street. In approaching this terminus, the line is to be carried upon a viaduct, and no road would be crossed on the level between New-cross and Union-street. The connection with the west-end is proposed to be accomplished by forming a junction with the proposed South-Western Extension line; and should the South-Western Company think fit, they would be permitted to use the Union-street terminus.

“This terminus, which appears to be conveniently contrived, as well as that part of the line which is in immediate connection with it, would pass through the district called the “Mint,” consisting chiefly of houses of an inferior description.

“It was originally the intention of the North Kent Company to form a west-end line from Union-street; but, with the view of avoiding

expense and unnecessary destruction of private property, the Company, on finding that the South-Western line was to be extended to London-bridge, came to an arrangement to form a junction with that extension, and to make the viaduct on which it would be constructed common to the traffic of both Companies.

“The North Kent Railway, in its approach to Union-street, would not interfere with any church property or public buildings.

“From the New-cross to Union-street, the property is valued at £303,000, the distance being $3\frac{1}{4}$ miles. This includes the price of the land required for the terminus, which is estimated at £80,000.

“The viaduct would be of brickwork principally; and in the open country it would be upon an embankment between retaining walls.

“The extent of station room at Union-street is to be four acres. The upper level, which is 20 feet above the pavement in Union-street, would be appropriated for passengers, and the lower portion for the stowage of goods.

“The roads for the egress and ingress of passengers and carriages appear to be very conveniently arranged.

“For the project, a part of which is above described, a bill has been for some months before parliament; but the North Kent Company have a separate scheme for extending the line across Southwark-bridge to Thames-street, where they propose to form a goods' station. To the passing of this bridge, and the establishing a station in so thronged a part of the metropolis, we see grave objections, as we do not find that any improvement of the adjacent thoroughfares or approaches is contemplated by the Company.

“They, at one time, had an intention of still further extending the line for passengers up to Bucklersbury. But to such a scheme, whatever might be the convenience it would afford to the City passengers in general, all the objections which we have already made to such projects, fully apply.

“We are, however, of opinion, that the North Kent Railway, or any other line which may be sanctioned by the legislature, as best suited to the wants of the country through which that railway proposes to pass, may properly, and with advantage to the public, be permitted to approach the south bank of the river at any convenient spot in the neighbourhood of the bridges; and in this view the Union-street station seems unobjectionable as a City terminus, provided the North Kent Company will undertake to widen one side of Union-street, and to make such arrangements for the standing of the public and private carriages, as shall prevent any interruption of the street-traffic in that quarter.

“An improvement of the street communicating between Union-street and Great Surrey-street is very desirable, even in the present state of things; and should the North Kent Railway be formed, and its terminus be placed at Union-street, that improvement would become absolutely necessary, not only for the general street traffic, but also for railway passengers. Under these circumstances, the North Kent Company should be required to contribute towards such improvement.

“If a new street should be formed in that quarter, the traveller by the North Kent Railway would be able to approach the terminus from the City, either by Blackfriars-bridge or London-bridge, toll free; and

it is a question whether the Company would not find it to their advantage to make Southwark-bridge toll free also for the railway passengers.

"If the approaches to a terminus in Union-street were thus opened and made commodious, we are of opinion that a station on that spot would be more convenient to the City passengers to and from North Kent, than one at London-bridge; because they would then have three bridges by which to reach the City; whereas the London-bridge station is chiefly dependent on the approach by London-bridge.

"We also think that the convenience of the west-end passenger would be satisfactorily provided for, by a junction with the South-Western Extension.

"We, however, gather from the evidence that has been laid before us by the South-Eastern Company, that there has been a want of proper combination in the engineering arrangements of the South-Western and North Kent Companies; but an improvement in these arrangements might be made under the sanction of the legislature, which would produce the required result, without entailing an unnecessary expenditure upon the parties.

" 2. South-Eastern Extension to Waterloo-bridge.

"This is a part of the South-Eastern scheme for the North Kent traffic, and it is for the purpose of giving the travellers by that line a west-end terminus.

"More properly it might be called the West-end Branch.

"It is intended to connect it with the Greenwich Railway at the point where that line crosses the Grand Surrey Canal.

"This branch is to commence at the junction, by a plane descending to the point where it would pass under the embankment of the Croydon Railway; from which point it would again ascend to the level necessary to admit of crossing the streets in proceeding to the terminus at the Waterloo-bridge-road. The descending plane would have a gradient of 1 in 29, and the ascending a gradient of 1 in 233, extending to the Grange-road, where the railway will have attained the requisite height.

"This line would, in its course, interfere with church property in two instances. It would have to be formed over the site now occupied by St. Mary's Church, the new district church of the parish of St. George the Martyr; and after passing the Westminster-bridge-road, it would be carried close to a new district church, which, however, has not been consecrated.

It is generally admitted that the Bricklayers' Arms Terminus is very inconvenient for passengers coming from or proceeding to the north side of the Thames; and there can be no question, that any station near Waterloo-bridge would be much more central and convenient for them. There the approaches are numerous and spacious, and the level of the terminus might be made to correspond with that at the south end of the bridge. Should such an arrangement be approved, it would be desirable, in order to obviate the great inconvenience which arises from the stoppage of a continuous stream of traffic at a toll-bar, that Waterloo-bridge should be made free to the railway passengers.

"Although we are not required to enter into the consideration of the engineering details of the various projects brought before us, we think it necessary to state, that it is by no means clear, from the

evidence of the various witnesses, that, under all the circumstances, the most favourable line has been selected for this extension. There are objections to the arrangements of the levels near the present Bricklayers' Arms station, as well as to the proposed crossing of the South-Western Extension Line on a level.

"In the first case, the project of the South-Eastern Company is to carry their line for goods to the Bricklayers' Arms on gradients which would compel the public in using some thoroughfares in that neighbourhood, to cross the rails on a level. Nothing can be more objectionable; for although this branch is only for the goods' trains, which should not move at high velocities, yet it is well-known that engine-drivers are very regardless of regulations as to the limit of speed. The public safety therefore demands some changes by which the great risk of collisions, which would result from adopting the plan submitted to the commission may be avoided. This, however, according to the plans at present proposed by the Company, cannot be effected by carrying the public roads over the goods' line in bridges, inasmuch as the viaduct proposed for the extension line would run so close to the goods' line as to make that impossible. Some alteration, therefore, in the direction of the extension line is indispensable.

"In the second place, it is proposed by the South-Eastern Company to cross the South-Western Extension Line on a level in running into their terminus. This is quite inadmissible, for as both Companies propose to run frequent trains for the short traffic, it would be impossible to adopt such precautions as would in foggy weather prevent collisions of a fearful character. It is therefore necessary that one or both of these Companies should so alter their levels or lines of direction as to remove this objection.

"If the North Kent Company should fail to carry their bill, the South-Eastern Company would have the opportunity of taking a fresh line, in which the defects of their present extension scheme might be altogether avoided, and it cannot therefore in its present shape be recommended. If however the general line should be sanctioned, some means should be found for overcoming the difficulties pointed out.

"3. The South-Western Extension from the York-road to London-bridge.

"The bill obtained by the South-Western Company last year enables them to extend their line from Nine Elms to a station or terminus at Waterloo-road. Their present object is to extend the railway to a terminus which they propose to establish on the right bank of the Thames, near St. Saviour's Church, where they would have the advantage of good wharfage. This further line of extension would cross Waterloo-road and Great Surrey-street, and touching the south-west angle of the Borough-market, it would pass near the west end of St. Saviour's Church, and terminate at or near the river-side. In its whole length this line would be carried on a lofty viaduct.

"From the evidence before the commission, there is every reason to believe that the proposed extension would afford considerable facilities for the commercial transactions of the South-Western Company, and that it would give great convenience to the City passengers who use this line of railway.

"It has been suggested by Mr. Alderman Humphery and others,

that, coupled with the permission to make the extension line to London-bridge, there should be the obligation to leave on one, if not on both sides of the proposed railway viaduct, a wide thoroughfare or street for the accommodation of the foot passengers and carriage traffic of that district.

“There can be no doubt that such an additional thoroughfare would be a great accommodation to the public; but as it has not been shown that the district through which the line is proposed to be carried, would be materially injured, or that any important lines of communication would be interfered with by the railway, we cannot recommend that it should be made compulsory on the Company to incur the whole expense of purchasing the property necessary to make this thoroughfare.

“The whole width that would be occupied by the railway would not exceed 35 feet, and for access to the viaduct on one side 15 feet more would suffice, making a total of 50 feet. But if the Company should be compelled to leave a thoroughfare of 50 feet in width, as proposed by Mr. Alderman Humphery and others, they would have to purchase as their minimum width 95 feet, which would nearly double the cost of the property to be acquired.

“They might, however, fairly be required to contribute towards the object in view; and at the least they should give over for this public purpose all such portions of ground as they may be under the necessity of purchasing beyond the space absolutely required for the railway; and we have received evidence that they would not be unwilling to do this.

“Objections have been made to this extension, on the ground of its interference with the Borough-market, and some Almshouses in that neighbourhood, and also on the ground of its passing so near to the west end of St. Saviour’s Church, as to interfere with the approaches to it, and to subject the congregation to interruption during the performance of Divine service. None of these objections are, however, insuperable.

“In the first place, the Company should be prohibited from running trains either into or from this terminus, during the hours of worship. Secondly, an arrangement satisfactory to the trustees for the almshouses should be entered into, subject to arbitration if necessary; and a similar arrangement might be adopted with regard to the Borough-market.

“Subject to these conditions, and to the further condition that an arrangement, satisfactory to the proper tribunal, takes place between the South-Western Company and the South-Eastern Company, that shall prevent the necessity of these lines crossing each other upon the level, the projected extension of the South-Western line from York-road to the proposed terminus at London-bridge, is recommended.

“4. *The West End and Southern Counties’ Railway.*

“This line is projected to join the Greenwich Railway at the station at High-street, Deptford, from whence it would take a westerly course, passing over the Dover highroad near Hatcham, and running nearly parallel to the high road, through Peckham and Camberwell. It would there sweep round the north side of Kennington-common, and, crossing the Clapham-road at Newington-place, it would proceed in almost a direct line to Waterloo-bridge, which it would cross, as detailed in the

evidence of Mr. J. D. Paine, to its proposed terminus in Wellington-place.

“No traffic returns were laid before the commission; but taking into consideration the cost of the work, and that it would convey very little of the Greenwich or Deptford population, in the event of the South-Eastern Company forming a west-end line for passengers, and bearing in mind that the Greenwich Railway has been found a very unprofitable investment, it is manifest that even if such a line is wanted for the district through which it would pass (a matter open to doubt), it can hardly be expected that it would be remunerative.

“The passage over Waterloo-bridge, in the manner proposed by the engineer of this line, is considered quite inadmissible, as well as the contemplated terminus on the north bank of the river; and it may here be observed, that this project has been laid before us in a very imperfect state.”

The Commissioners wind up with the following recommendations:—

“1. That on the north of the Thames, no railway now before parliament, or projected, be permitted to come within the limits described in our instructions.

“2. That if at any time hereafter it should be deemed advisable to admit railways within those limits, this should be done in conformity with some uniform plan, carefully laid down under the authority of your Majesty's government, and sanctioned by the wisdom of parliament; and that under no circumstances should the thoroughfares of the metropolis, and the property and comfort of its inhabitants, be surrendered to separate schemes, brought forward at different times, and without reference to each other.

“3. That on the south of the Thames, either the North Kent Railway be permitted to have its terminus in Union-street, and to join the terminus of the South-Western Railway at Waterloo-bridge, or that the South-Eastern Railway be permitted to extend to Waterloo-bridge, accordingly as one or other of these lines may, upon a comparison of their general merits, receive the sanction of parliament, and subject, in either case, to the conditions which we have pointed out in this report.

“4. That the extension of the South-Western Railway to London-bridge be permitted, subject to the conditions pointed out in this report.

“5. That a communication between the railways approaching London on the north and south sides of the river, and a connection between them and the docks being desirable, this should be effected by a railway encircling the metropolis, crossing the Thames at some point west of Vauxhall-bridge, and not coming within the limits of our enquiry on the north side of the river.”

CONTRIBUTIONS TO RAILWAY STATISTICS.

BY HYDE CLARKE, Esq.

No. 5.—IRONSTONE AND IRON TRAFFIC.

NEXT to coal, iron forms one of the chief branches of mineral traffic ; but the returns of the Board of Trade do not allow the complete development of the full extent of the traffic in ironstone, pig iron, bar iron, and castings.

The traffic in ironstone on the following railways, in the year ending 30th June, 1845, is shown below in tons, with the amount received in tons, and the rate of charge per ton per mile in pence :—

	Tons.	£	Rate. d.
Ballochney - - - - -	239,010	6,931	2.25
Taff Vale - - - - -	58,850	6,786	1.16
Wishaw and Coltness - - - - -	32,240	191	

The traffic in pig iron for the same period is also shown in tons, with the amount received, and the rate of charge:—

	Tons.	£	Rate. d.
Ardrossan - - - - -	7,881	305	...
Ballochney - - - - -	3,610	46	1.66
Glasgow and Ayr - - - - -	25,000	2,400	...
Taff Vale - - - - -	38,493	4,901	1.00
Wishaw and Coltness - - - - -	73,429	2,096	...

As to the traffic in bar iron and castings, there are only two returns, which are those of the Ballochney, and the Wishaw and Coltness Railways :—

	Tons.	£	Rate. d.
Ballochney - - - - -	10,000	200	3.82
Wishaw and Coltness - - - - -	5,202	151	...

The traffic of the Scotch iron district seems to be as follows :—

	Tons.	£
Ironstone - - - - -	27,125	7,121
Pig Iron - - - - -	109,920	4,847
Bar Iron - - - - -	15,202	351
Total - - - - -	152,247	£12,319

The traffic of the Welch iron district is as follows, from which it appears that very little produce goes by railway at present :—

	Tons.	£
Ironstone - - - - -	58,250	6,786
Pig Iron - - - - -	38,493	4,901
Total - - - - -	97,843	£11,687

No. 6.—COPPER AND TIN.

The traffic in copper and tin ores is confined to the Cornish lines :—

	Tons.	£	Rate. d.
Bodmin and Wadebridge - - - - -	3,000	200	3.00
Hayle - - - - -	20,000	4,000	4.20

No. 7.—LIME AND LIMESTONE.

Lime and limestone are such important items of consumption, and the railway system has done so much for their increased distribution, that it is much to be desired for the benefit of Railway Companies, that more information should be obtained as to the extent of produce carried. The apathy on the part of railway secretaries as to the publication of good information and useful returns, often proves a very great obstacle in the way of those who advocate the railway cause. And it is also detrimental to the individual Companies, by depriving them of the materials for judging of the working of their traffic and the field for its extension.

Nearly every railway carries lime, but the following are the only Companies which give separate returns of the traffic in lime and limestone; and which serve to show that it is a very extensive branch of revenue.

Number of tons of lime and limestone carried in the year, ending 30th June, 1845, with the amount received, and the rate per ton per mile in pence:—

Company.	Tons.	Rate.	
		£	d.
Arbroath and Forfar - - - -	2,000	300	...
Great North of England - - -	2,500	18	...
Leicester and Swannington - -	4,800	220	1.50
Llanely and Llandilo - - - -	294	12	1.00
Maryport and Carlisle - - - -	2,261	82	1.30
Midland - - - - -	56,290	5,800	...
Newcastle and Carlisle - - - -	40,260	3,774	1.25
Whitby and Pickering - - - -	1,659	167	2.
Wishaw and Coltness - - - -	13,482	124	..
York and North Midland - - - -	8,998	762	1.50
Total - - - - -	132,544	£11,259	

Most of this produce is used for agricultural purposes, except some for building; perhaps that on the Wishaw and Coltness Railway, part of which is for the iron furnaces. The following may be taken as a minimum estimate of the quantity of lime carried on railways for agricultural purposes.

District.	Tons.
Scotland - - - - -	40,000
Northern - - - - -	50,000
Yorkshire - - - - -	25,000
Midland - - - - -	120,000
Lancashire - - - - -	25,000
Southern - - - - -	50,000
Total - - - - -	310,000

The rates for the carriage of lime are generally low, ranging from 1½d. per ton per mile, on the Newcastle and Carlisle, to 1¼d. per ton per mile, on the York and North Midland. The greatest traffic in lime, according to the returns, is as follows:—

	Tons.	£
Midland - - - -	56,290	5,800
Newcastle and Carlisle - - - -	40,260	3,774

Much of the lime carried on the Midland is obtained from the pits which have been opened of late years by Mr. Stephenson and others, in consequence of the facilities afforded by the construction of the Midland Railway.

No. 8.—STONE TRAFFIC.

The traffic in stone, though large, cannot be ascertained in its full extent, on account of its not being specified in the returns.

Number of tons of stone carried in the year ending June 30, 1845, the amount received, and the rate per ton per mile :—

Company.	Tons.	£	Rate. d.
Arbroath and Forfar - - - -	20,000	1,100	2.12
Great North of England - - - -	4,000	800	2.12
Leicester and Swannington - - - -	10,412	269	2.50
Preston and Wyre - - - -	852	91	1.25
Saint Helen's and Runcorn - - - -	17,169	674	1.12
Whitby and Pickering - - - -	30,465	1,116	2.50
Wishaw and Coltness - - - -	6,492	151	..
Total - - - -	90,000	£4,500	

Part of this stone is for building purposes, and part for paving. Stone is also carried on the Midland, Great Western, South Eastern, and other lines, and the total quantity of stone carried on railways does not probably fall short of 200,000 tons per annum.

The rates may be taken generally as above 2d. per mile, which seems rather too high for the due development of the traffic.

No. 9.—SAND TRAFFIC.

Sand is carried extensively on railways. The amount in the year ending 30th June, 1845, was as follows, on some of the lines :—

Company.	Tons.	£	Rate. d.
Bodmin and Wadebridge - - - -	12,227	1,310	3.00
London and Croydon - - - -	3,000	450	3.75
Wishaw and Coltness - - - -	2,921	21	...

Part of this sand is used for agricultural purposes, and part for building. A great deal of gravel and sand is also carried for railway purposes, to be laid down as ballast on the permanent way.

On the Durham and Sunderland Railway, in the year ending June 30th, 1845, ballast was also carried to some extent for shipping purposes.

Company.	Tons.	£	Rate. d.
Durham and Sunderland - - - -	30,356	506	4

No. 10.—MISCELLANEOUS MINERAL TRAFFIC.

Among miscellaneous articles of mineral traffic carried on railways, are salt, to a large extent, lead ores, copper, brass, lead and tin metal,

iron slag, cement, stone, glass, &c. There are no data for estimating this traffic accurately.

No. 11.—BRICK TRAFFIC.

The distribution of bricks and tiles, at a cheaper rate, is one of the benefits conferred by the railway system, and in consequence of which a great many new brick fields and tile works have been opened.

The only returns of traffic in bricks and tiles, are the following:—

Return for the year ending 30th June, 1845, of the numbers of tons of bricks and tiles, amount received, and rate per ton per mile.

Company.	Tons.	£	Rate d.
Leicester and Swannington - - - -	746	92	3.00
London and Croydon - - - -	500	50	3.00
Maryport and Carlisle - - - -	370	40	2.14
Wishaw and Coltness - - - -	291	12	..
Total	1,907	£194	

It is very evident that this is but a very small part of the total produce, for large quantities of bricks are produced on nearly every line, and the traffic is certainly therefore ten times as much.

The rates, it will be observed, are generally high, so far as the information goes, for 2d. per ton per mile would seem ample.

No. 12.—TIMBER TRAFFIC.

The conveyance of building materials at a cheap rate is, as we have observed, a great boon conferred on the community, and particularly on the agriculturists, and we cannot estimate the total amount of building materials carried at a less extent than 320,000 tons, namely:—

	Tons.	Rate. d.
Stone - - - - -	200,000	2.12
Bricks and Tiles - - - - -	20,000	3.00
Timber - - - - -	40,000	3.00
Lime - - - - -	50,000	1.50
Sand - - - - -	10,000	3.00
Total - - - - -	320,000	

. Of this quantity at least one-half must go for agricultural purposes, effecting a very great saving at a time when there is an evident disposition to increase on scientific grounds the extent of agricultural buildings and apparatus.

Quantity of timber carried in tons, in the year ending 30th June, 1845, amount received, and rate per ton per mile:—

Company.	Tons.	£	Rate. d.
Whitby and Pickering - - - -	911	506	5.
Wishaw and Coltness - - - -	148	130	..
Great North of England - - - -	1,000	160	..

A great deal of timber is carried on the Cornish and Northern lines, for mining purposes; and hop poles, bark, and small timber are also conveyed, but the relative proportions are not known.

No. 13.—FISH TRAFFIC.

Fish has been relied upon as a great branch of railway traffic, and there is no reason to doubt it, though the means of estimating it are very defective. Already, in the midland towns, fish is cheap and abundant, and as the traffic gets better understood, it must greatly extend.

The only separate returns of fish conveyed are the following :—

Number of tons of fish carried in the year ending 30th June, 1845, amount received, and rate per ton per mile :—

Company.	Tons.	£	Rate. d.
Great North of England - - - -	867	970	5.55
Whitby and Pickering - - - -	1109	330	5.00

The rates charged for conveyance are high, and there is no doubt the traffic is remunerative.

The following is an estimate of the number of tons of fish conveyed on the several lines, which may be taken as much below the real amount rather than above it :—

Districts.	Tons.
Scotland - - - - -	2,000
Northern - - - - -	3,000
Midland - - - - -	2,000
Southern - - - - -	4,000
Western - - - - -	2,000
Total - - - - -	13,000

No. 14.—PROVISION TRAFFIC.

The quantities of meat, fish, and vegetables conveyed on our railways is notorious ; and the effect this has produced on the larger and smaller markets is one of the most striking effects of the railway system.

The only distinct returns under this head are those of the South Eastern and Preston and Wyre Railways, which show that it is of very large extent.

Tons of meat, fish, fruit, and vegetables conveyed in the year ending 30th June, 1845, amount received, and rate per ton per mile :—

Company.	Tons.	£	Rate. d.
South Eastern - - - - -	10,000*	..	..
Preston and Wyre - - - - -	8,521	2,591	4

The quantity of provisions supplied to the London markets by the Metropolitan railways may be estimated at a minimum calculation, as follows :—

Company.	Tons.
South Eastern - - - - -	7,000
Brighton - - - - -	5,000
South Western - - - - -	20,000
Great Western - - - - -	30,000
London and Birmingham - - - - -	30,000
Eastern Counties and Northern and Eastern - - - - -	15,000
Total - - - - -	107,000

* Fruit, meat, and vegetables, half-year ending 31st December, 1844, 3583 tons besides fish, bacon, hams, &c.

wards of 100,000 tons of produce brought into metropolitan London under the most favourable circumstances, and exclusive of London. The quantity enumerated includes killed meat brought a great distance by railway, whereby the unnecessary waste in transit is avoided. Fruit and vegetables brought fresh to market, and of that delicate nature that they can only be carried by such a mode of conveyance; fresh fish, milk, butter, &c. All these articles which can be most advantageously and most economically carried by railway.

No. 15.—GRAIN TRAFFIC.

Conveyance of grain and flour by railway forms a very irregular traffic, as such large quantities had to be conveyed when corn was entered for home consumption.

The following returns for the year ending 30th June, 1845, are as showing the number of tons carried, the amount received, and the rate per mile:—

Company.	Tons.	£	d.
North of England - - - -	5,901	1,284	2.00
and Croydon - - - -	45	5	...
Leeds and Carlisle - - - -	229	31	2.50
and Pickering - - - -	407	142	4.00

The amount of grain and meal carried by railway is certainly not a quarter of a million of tons, and most probably exceeds three hundred thousand tons.

No. 16.—MANURE TRAFFIC.

It is very important to the agricultural interests, but like many other branches of traffic, it is left by the returns a matter of pure conjecture as to its real extent.

The following are returns of tons of guano and manure carried by railway for the year ending 30th June, 1845, with amount received, and rate per mile.

Company.	Tons.	£	d.
London and Swannington - - - -	496	49	2.00
and Coltness - - - -	1,056	27	.

As has been already shown, sand is carried extensively for agricultural purposes, and so is lime, and the quantity cannot be less than as follows:—

	Tons.
Lime - - - - -	300,000
Sand - - - - -	50,000
Manure - - - - -	20,000

Total quantity being taken as four hundred thousand tons.

No. 17.—AGRICULTURAL TRAFFIC.

The foregoing calculations afford data for calculating the vast extent of agricultural traffic, and the amount of tonnage which may be thus tabulated:—

BROUGHT TO THE FARM.

Raw Materials.	Tons.
Building Materials, Draining Tiles, Hop Poles, &c.	180,000
Manures	400,000
Also Hay, Turnips, Rapeseed, &c., for feeding stock.	
Also Seeds.	
„ Salt.	
„ Lean Stock.	
„ Implements and Iron.	

PRODUCE CARRIED TO MARKET.

Cattle	220,000
Calves	16,000
Sheep	1,200,000
Swine	550,000
Also Horses.	
Grain	200,000
Killed Meat, Bacon, Hams	}
Poultry, Eggs	
Milk, Butter, Cheese	
Fruit	200,000
Potatoes, Vegetables	}
Also Hides, Horns.	
„ Hops.	
„ Ale, Beer.	
„ Cyder, Perry.	
„ Hay and Animal Food.	
„ Timber, Bark.	

This synopsis will show how vast is the extent of agricultural traffic; and it will readily suggest itself that a great saving is effected in the conveyance of raw materials, and a still greater saving in the conveyance of produce to market.

No. 18.—MAIL TRAFFIC.

The conveyance of mails affords a large return to the Companies. The amount of this has had to be estimated like that of parcels, as the Board of Trade return is only for one half year.

Amount received for the conveyance of mails in the year ending 30th June, 1845.

Company.	£
Arbroath and Forfar	40
Ardrossan	30
Chester and Birkenhead	827
Dublin and Drogheda	1,600
Dundee and Arbroath	318
Eastern Counties, Cambridge	150
„ „ Colchester	3,000
Grand Junction	20,000
Great North of England	2,800
Hull and Selby	1,000
Lancaster and Preston	4,600
Liverpool and Manchester	1,000

Company.	£
London and Birmingham - - -	- 15,000
London and South Eastern - - -	- 7,200
London and Greenwich - - -	- 50
London and Brighton - - -	- 260
London and Blackwall - - -	- 60
Manchester and Bolton - - -	- 100
Manchester and Leeds - - -	- 2,200
Midland - - -	- 11,000
Newcastle and Carlisle - - -	- 1,000
Newcastle and North Shields - - -	- 50
North Union - - -	- 4,400
Preston and Wyre - - -	- 170
Stockton and Darlington - - -	- 370
Total - - -	£77,000
Add for omissions - - -	23,000
Gross total - - -	£100,000

This must be considerably under the mark, as there are no returns for the Great Western, South Western, Bristol and Birmingham, Edinburgh and Glasgow, &c.

No 19.—GOODS TRAFFIC.

Although goods traffic is a term generally applied to all traffic, not passenger traffic, it is also strictly applied to the conveyance of produce, other than mineral.

The following table shows the number of tons of goods conveyed in the year ending 30th June, 1845, the amount received, and the rate per ton per mile :—

Company.	Tons.	£	Rate d.
Ardrossan - - - -	17,360	871	..
Bristol and Birmingham - - -	74,000	38,000	2.27
" - - - -	20,000	3,756	..
Chester and Birkenhead - - -	7,000	2,768	..
Clarence - - - -	15,000	2,000	2.39
Dublin and Drogheda - - -	9,000	2,400	3.00
Dunfermline and Charlestown - - -	4,145	518	7.05
" - - - -	9,458	1,186	2.75
Eastern Counties, Cambridge - - -	44,572	11,645	..
" Colchester - - - -	31,669	9,553	..
Garnkirk and Glasgow - - -	20,883	1,204	2.18
Glasgow and Ayr - - - -	45,000	15,000	..
Great North of England - - -	45,966	15,411	..
Hartlepool - - - -	28,337	1,658	..
Great Western - - - -	..	..	..
Hayle - - - -	1,537	289	6.03
Liverpool and Manchester - - -	216,237	95,479	..
South Western - - - -	93,425	56,080	..
South Eastern - - - -	64,365	..	..
London and Brighton - - - -	49,308	32,037	..
London and Croydon - - - -	8,600	430	..

Company.	Tons.	£	Rat d.
London and Blackwall - - -	13,891	2,306	..
Manchester and Bolton - - -	97,612	12,356	..
Manchester and Leeds - - -	403,618	150,297	..
Maryport and Carlisle - - -	793	112	..
Midland - - -	371,154	139,334	..
Newcastle and Carlisle - - -	67,859	26,633	..
Newcastle and Darlington - - -	50,500	11,512	..
Newtyle and Cupar Angus - - -	9,507	592	..
" - - -	91,332	..	..
Pontop and South Shields - - -	26,019	1,256	..
Preston and Wyre - - -	20,672	6,271	..
St. Helen's - - -	10,872	676	..
Sheffield and Manchester - - -	32,000	4,000	..
Sheffield and Rotherham - - -	11,800	1,539	..
Stockton and Darlington - - -	70,789	12,339	..
Taff Vale - - -	19,662	8,363	..
Ulster - - -	..	9,097	..
Whitby and Pickering - - -	2,329	958	..
Wishaw and Coltness - - -	4,101	272	..
Yarmouth and Norwich - - -	..	1,005	..
York and North Midland - - -	279,012	30,041	..

The chief Companies concerned in the pure goods traffic, exclusive of minerals, are the following, besides the Birmingham and Great Western :—

	Tons.	£
Manchester and Leeds - - -	503,618	150,297
Midland - - -	371,154	139,334
Liverpool and Manchester - - -	216,237	95,479
London and South Western - - -	93,425	56,080
Bristol and Birmingham - - -	74,000	38,000
London and Brighton - - -	49,308	32,037
York and North Midland - - -	279,012	30,041
Newcastle and Carlisle - - -	67,859	26,633
Eastern Counties - - -	76,241	21,198
Great North of England - - -	45,966	15,411
Glasgow and Ayr - - -	45,000	15,000
Manchester and Bolton - - -	97,612	12,356
Stockton and Darlington - - -	70,789	12,339
Newcastle and Darlington - - -	50,500	11,512

The extent of gross goods traffic, including minerals and all kinds of produce, is shown by the following table :—

Number of tons of goods conveyed in the year ending 30th June, 1845, and amount received :—

	Tons.	£
Arbroath and Forfar - - -	59,844	5,701
Ardrossan - - -	67,385	2,283
Ballochney - - -	377,068	10,527
Bristol and Birmingham - - -	166,701	54,929
" - - -	20,376	2,122
" - - -	25,000	6,062
Chester and Birkenhead - - -	7,000	2,788

	Tons.	£
Clarence - - - -	150,000	22,000
Dublin and Drogheda - -	9,000	2,400
Dunfermline and Charlestown - -	33,622	3,680
Dundee and Arbroath - -	81,484	4,722
Dundalk and Newtyle - -	34,744	3,923
Durham and Sunderland - -	412,523	24,404
Eastern Counties, Cambridge - -	44,572	11,645
" Colchester - -	32,867	9,692
Edinburgh and Glasgow - -	..	34,654
Edinburgh and Dalkeith - -	125,274	5,093
Garnkirk and Glasgow - -	297,715	12,067
Glasgow and Greenock - -	79,413	14,301
Glasgow and Ayr - -	168,376	29,116
Grandhurst - - - -	266,000	118,971
Great North of England - -	234,198	28,561
Great Western - - - -	209,563	154,176
Hartlepool - - - -	724,824	34,185
Hayle - - - -	66,871	9,487
Lancaster and Preston - -	26,099	2,891
Leicester - - - -	197,447	16,756
Liverpool and Manchester - -	349,633	104,894
London and Brighton - -	65,747	33,326
London and Birmingham - -	211,590	204,104
London and South Western - -	93,425	56,080
London and South Eastern - -	87,119	...
London and Croydon - -	9,600	866
London and Blackwall - -	13,891	2,308
Manchester and Bolton - -	149,245	15,708
Manchester and Leeds - -	507,859	150,705
Maryport and Carlisle - -	128,730	9,416
Midland - - - -	715,272	181,456
Monkland and Kirkintilloch - -	1,146,116	14,224
Newcastle and Carlisle - -	306,176	48,282
Newcastle and Darlington - -	268,086	24,132
Newcastle and North Shields - -	26,936	1,198
Newtyle and Cupar Angus - -	9,507	592
North Union - - - -	413,256	13,000
Pontop and South Shields - -	719,734	51,448
Preston and Wyre - - - -	43,062	8,654
St. Helen's - - - -	255,816	11,715
Sheffield and Manchester - -	70,000	6,000
Sheffield and Rotherham - -	30,151	2,516
Stockton and Darlington - -	900,000	85,000
Slamannan - - - -	64,236	1,808
Taff Vale - - - -	342,991	39,969
Ulster - - - -	..	9,227
Whitby and Pickering - -	36,101	2,483
Wishaw and Coltness - -	560,150	16,597
Norfolk - - - -	...	1,005
York and North Midland - -	351,022	34,692
Total - - - -	11,600,000	£

The chief Companies engaged in the conveyance of minerals and goods rank as follows:—

London and Birmingham	-	211,590	204,114
Grand Junction	- - -	266,000	118,971
		<hr/>	<hr/>
		477,590	323,085
Midland	- - -	715,272	181,156
Great Western	- - -	209,563	154,176
Manchester and Leeds	- - -	507,859	150,705
Liverpool and Manchester	- - -	349,633	104,894
Stockton and Darlington	- - -	900,000	85,000
London and South Western	- - -	93,425	56,080
Bristol and Birmingham	- - -	166,701	54,929
Pontop and South Shields	- - -	719,734	51,448
Newcastle and Carlisle	- - -	306,176	48,282
Taff Vale	- - -	342,991	39,969
York and North Midland	- - -	354,022	34,692
Edinburgh and Glasgow	- - -	...	34,654
Hartlepool	- - -	724,824	34,185
London and Brighton	- - -	65,747	33,326

ON PREVENTING ACCIDENTS IN MINES.

By R. RETTIE, C.E.

INVENTOR OF THE STEERING SIGNALS FOR PREVENTING COLLISIONS AT SEA, SIGNALS OF DISTRESS FOR NIGHT, AND NEW TIDAL HARBOUR LIGHT FOR SHEWING THE DEPTH OF WATER DURING NIGHT, ETC.

(Continued from page 492.)

FROM the multiplicity of engagements, I have been prevented from resuming the important task which I have been attempting to throw light upon, viz., the prevention of accidents in mines. I have seen a long article in the *Times* by two scientific gentlemen, whom the late government had appointed to investigate the causes of so many accidents in our mining districts, which are continually occurring. Unfortunately the powers that be are so fond of putting forward parties ill able to carry out their orders, or to give the least information. From beginning to end we may state that their whole letter is a repetition of old matter, which has been known for years, and which they have culled from the various parties who have already written upon the very subject; and they wind up this by stating what must appear to many a very startling conclusion, and one which is only suited for the circumscribed boundary of a lecture room, or such a place as the Society of Arts, where any kind of dogma will be taken and gulped downward without either rhyme or reason. They have very beautifully given the theory and the nature of the various gases; but in the winding-up they take upon themselves to state that there is little chance for any kind of remedy that can do away with the many accidents which now occur. Now this is poor consolation to the miner, to know that there is no hope for him in working below. I would respectfully remind the miner and the government of Great Britain, that it was a learned and scientific doctor who said steam could not cross the Atlantic! and he was laughed at. I tell the government of our country that such

twaddle as this is actually enough to sicken one—as it is well known as to the accidents in the collieries, mines, &c., that take place, it is not from explosive mixtures that they do so, but from other causes; and that these could be completely avoided by common carefulness and good management; and more than one-half are by the government negligence and carelessness! Then we have the other half to account for; and in the same way, by their own statement, we find that candles do the mischief; and that when the Davy lamp has been fired, or exploded, it never was looked what was the cause—whether it was the gauze rent in twain, perhaps opened up, to have a “puff o’ the pipe,” and many other accidents which the Davy lamp is just as liable to, to put it out of order, as the best-planned lamp could be. True, lamps will wear out, like ropes, which are often left to carry human beings up and down, when half cut through, until, at last, down go the miners—killed, maimed, or useless for life, leaving destitute families without number. Then an inundation will sweep away some forty or fifty, as in Cornwall the other day. But that is nothing; it could not be helped—and why? Did the parties ever look at the bearings of the pit? Did they look at the gathering of the water? No! never calculating that an augmentation of water in a loose soil is as dangerous as a quantity of fire damp, or the gathering in a goaf! If people will blindly set themselves down on the cask of powder, and smoke their pipe, and expect to get scot free, they are woefully mistaken; and the government require a remedy, not the cause. The cause has been well known many a day; but how to prevent it they have left the new government to find out, and by other parties, as they give it up as a bad job. We have had a fine sample of lecturers applying their mechanical skill in the heating and ventilating of the new houses of parliament; and I have no hesitation in saying, that the preventing of accidents in mines, by scientific gentlemen, is just about as likely to cost £70,000 for their enquiries; and when done, they will just be where they began, and the only difference will be—minus the money.

Every man to his trade, says the old adage; and 'tis a true one in almost every sort of business. Science and theory are well, while practical experience is kept hid. But let the one be brought into play, and see the difference! In place of having it said that mines are to be left in the antiquated state in which they have been wrought upon for years, and that no help can be found to obviate the distressing and heart-rending scenes that are every week occurring; and that with all our boasted knowledge, of our discoveries, our merchants' skill and information, that nothing can be done for the amelioration of this lamentable state of things—I say, perish such absurdity! There is not the least doubt, if government wishes it, it can be done by proper tradesmen, who will at once give plans, effective plans—that will, to a very great degree, make men as safe to work as in the workshops above ground; and why not? Does it consist with reason that those gentlemen who spend their time in chess rooms can know and see the various appliances which mechanical skill is daily bringing forward, suitable for many purposes, namely, “ventilation,” “lighting,” “ropes,” “corves,” and many contrivances which relieve man from slavish and laborious toil and risk of danger? I am only astonished at gentlemen (and that in the present day), whose scientific knowledge would set bounds to the ingenuity of man, merely because they them-

selves are not acquainted with any means of providing a safe and effectual remedy. The practical man, whose scientific researches have kept pace with the mechanical experience in business—whose time has been really practically engaged from morn to night, year after year—whose daily toil enables him to reflect, to think, and ponder—'tis he who knows no difficulty; 'tis he who knows that all is simple to the experienced mind with the practical skill. He shows that "knowledge is power," and what the learned and scientific think a difficulty, a poor mechanic would simply smile at the ignorance displayed. When we hear of glass being made malleable because the duty is taken off, and such dreamy theories, and in the temples dedicated to science and the arts, we often wonder to what it will come next. These temples seem truly in the hands of the heathens, and often do we wish for a purging out of the blunders which too often appear, putting common sense to the blush. And yet, see how they are supported and defended by parties from whom you really would expect far different information! Truth at a discount, humbug rampant. O for the quill of *Punch* to write them down and infuse a new spirit! 'Tis not to be wondered at if our mines are left unprotected—our miners left to risk, when we see doctrines propounded, that the difficulties are so great, so numerous, that it is to be feared there is little chance of ever overcoming them! True, a countryman might say, when called upon to see a fellow whom accident had maimed and bruised both head and body, while yet no mortal wound was there, "Oh! poor fellow, he'll never get better: put him out of pain—he's useless for life." But when the experienced surgeon comes to look upon the wounds, he smiles a look of pity at the bumpkin's fears; and, in a little, he provides the cure for all the wounds and bruises which, to the countryman, were insurmountable barriers to the salvation of the man.

So are miners. For every ill there is a cure; for every risk a miner runs there is a remedy. And so far from the government turning themselves over to sleep upon such a representation, they ought to present the report, with their kind respects, to the Society of Arts and tell them to give it a medal; and I have no doubt that learned body will give them the best their society can afford—as they generally bestow the rewards of merit like the Dutch bid in an auction, downwards—the gold for the most useless, and copper for the most sublime. What others value most, they think least of. They hate the vulgar rabble, and, in their opinion, themselves are different; and, consequently, that report will, we feel assured from the experience of the past, give ample testimony of their approval. In the meantime, we congratulate the miners that the theoretical science which may be fostered with luxurious care can do nothing to protect them. Hard-earned practical skill combined with science can, and that the one is the only quarter to expect relief; and which we trust the present Government will see at a time when education is so much wanted among the people. They will at the same time look properly, when they seek out their commissioners, to see that they are of the right sort—working men—practical men—men who know what things are, and what they are to do before they start; and not be like unto the mountain in labour and bring forth a mouse.

(To be continued.)

ACTUAL NECESSITY OF A DEFINITIVE SYSTEM OF LOCOMOTION.—ATMOSPHERIC PRINCIPLE.—BAROMETRICAL SYSTEM.

A GRAND mission has been bestowed upon the men of our time : it has been given to them to be the authors, the intelligent performers of one of those great events which change the face, the interest of the world. The general, the simultaneous construction of railways is the greatest fact contained in history—the fact in which the human power has been the most actively employed. Railways will leave far behind them those gigantic roads, whose secular remnants still attest the greatness of Rome. These were only common roads, there was only a single system of roads. But now, every centre of population, of industry, is the centre of a system of railways, from which immense radii are extended to every part of the world ; and in this sublime struggle of man against nature, abysses are filled up, mountains are depressed, sunk, cut open to level to an inch the passage of man.

To construct a general system of railways is a noble task ; but it is altogether serious, difficult, full of heavy responsibility. It is not only for us we are making roads, it is for all the future generations. We shall leave railways as a deposit to them ; and, if made worthy of their object, they will be the perpetual roads of the world.

The capital necessary for building railways is the largest capital ever raised—it is the whole fortune of every country. Who can foresee what would be the consequence of this capital, distracted from other employs, created sometimes for this intention, being for long years engaged in constructing, altering, improving the same line ?

Change in railways must be never wanted, because its consequences would be an incalculable evil. We must raise ourselves to the height of their object ; not leave in them any question unstudied, unsolved. Railways must be based upon the unchangeable principles of nature : it is the only way of making our works unchangeable like them.

There is still in railways a very important question unsolved—that of working them. We have made levels, rails to reduce the friction of the loads ; we can perform altogether enormous amounts of traffic ; we know by experience that very high speed is possible on railways ; and still by our present means of working this saving of friction is wasted by the employ of an expensive power. High speed is obtained, but is attended with extraordinary increase of expense ; and, if railways, as they are now, have proved to be a profitable undertaking, how much more advantageous would they be if a proper system of locomotion were to make use of all the economical advantages of their construction, of the centralisation of traffic obtained with them ! It is clear that the reduction of friction, as compared with an ordinary road, is entirely lost by the surplus of power necessary in locomotive engines ; that the only savings obtained actually by railways are the saving of time, the savings arising from the large amounts of work performed altogether : and we have, every day, the *triste* and dreadful proof that the unsafety of the present system would alone be a sufficient reason for suppressing it.

We stand thus between these two very positive and defined facts : necessity of adopting better means of locomotion—difficulty of creating, of knowing these means.

If ever a time was when the solution of this problem was urgent, was necessary, it is our present time. Why cover the earth with engines, which every fact tends to demonstrate as destined to be removed, to be superseded by better ones? Why adopt unsafe, uneconomical systems of locomotion, when locomotion on railway is the greatest, the most important of the actual interests?

The great sense of the people has felt this—the necessity of a better, of a more certain and secure mode of working railways. This feeling of every mind has brought forth these myriads of systems, very often half-born, unexplained, but which clearly shew the want, the necessity of better means. And when such expression is general, when all intelligent minds are trying to solve the problem, its near solution is a fact that no man can doubt. Trials will be made, better means found, railways changed for these partial improvements. Who can foresee what time, what expenses, will be necessary to bring railways to a state of entire perfection—to a system free from improvements—a *definitive system*? We have in the *gauge* question a very high example of the difficulties of altering railways, when once everything in them has taken the form and value of material and personal interests; and what would be for the general interest, for that of the Companies, the consequence of changing the motive power on all these projected lines, if once laid down with a defective system? Would all the distance which separates us from an entire economy, from perfect safety, be passed over at once? Would not a second, a third alteration be necessary? And what would be the loss of time, of money, for effecting those alterations, that a superiority of system, well established, would in any case oblige the Companies to admit?

Let us then, while there is still time, bring forward this grand question of a *definitive system*. Let us see whether this long course of changes, of improvement, cannot be avoided—whether we cannot at once foresee the result of several years of progressive alterations—whether we cannot show the way to this result,—appreciate the means of obtaining it.

What is the point at which all improvement, all change, will be unnecessary, at which railways will have obtained their greatest possible result?

This point is that at which there will be equilibrium between the power employed on them and the effect of this power, the resistance overcome by it—at which this power itself, by its nature, will be free from any chance of waste, will be produced by the means in the circumstances the most proper to insure economy.

We can thus, knowing what is the aim at which we must arrive, know whether we are following the way to it—whether such or such system will take us to it.

Any system in which the power is not produced by economical means, on economical conditions, cannot be a *definitive system*.

And we know, by the laws of *general economy*, that these conditions are :—

A constant and regular production—a production as large as possible, in the same operation, under a single direction—the employ of apparatus as simple, as large as possible.

This condition of single direction, required by economy, is the

greatest, the safest manner of avoiding accidents. Safety is the necessary character of a *definitive system*, but safety will be produced by these very means required to produce economy. Speed is itself a consequence of *economy*, of the possibility of proportioning in any case the power to the real resistance.

We can thus, by these general characteristics of the power in a *definitive system*, appreciate at once the value of any scheme proposed, of any existing machine. It is not necessary to study to appreciate the theory of every system, to lose time in unnecessary details of principles very often imperfectly known and calculated. Any system, to be definitive, must admit of a power *constantly economically* produced.

These first and general characteristics of *economy* must be completed by other special characteristics. What would be the advantage of producing the power with economy, if a part of this power were wasted in its employ ?

The apparatus which brings in connection the resistance with the power, which is the *transition* between them, *must not absorb any part of this power*.

To appreciate exactly how far such result is or can be obtained by any new system, its theory, its capabilities, the properties of its nature must be clearly established. Such a study must be the preliminary stage of any serious trial ; it is the only way of arriving at results altogether as true as far as possible.

And when it shall have been proved that a certain system of locomotion fulfils these general exigencies—that it admits, by its nature, of effecting, without loss, the transmission of power—then we shall be entitled to lay out capital to try it, to adopt it on the general system of railways ; because then it will be proved that the farthest possible result is obtained—that *nothing can supersede this Definitive System*.

The barometrical system, for constructing and working atmospheric railway, is the produce of long and serious studies of this principle of locomotion.

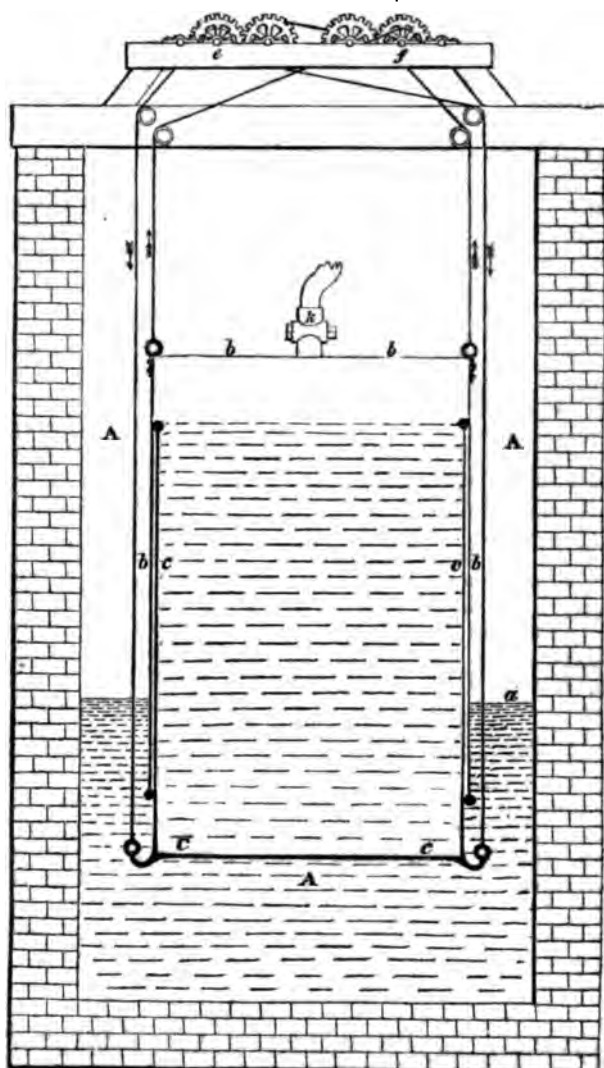
From these studies results, that the atmospheric principle, applied by proper means, can allow us to establish, between a certain amount of power created and the resistance to be overcome, a *transition* in which nothing is lost—that the effect of a steam engine can be communicated at several miles, without any other loss than the friction of a simple and large apparatus. These consequences are drawn from a clear and simple theory of the atmospheric system, which has been submitted to the public judgment by its publication.*

To explain the reasons for which the atmospheric system is capable of this result, we must say that, according to its theory, working atmospheric railways is composed of two very distinct operations : the first, that which takes place previous to the starting of the train, called *exhaustion*—that in which the air is withdrawn from the tube, and the train carried, called *traction* ; that the last of these operations requires an amount of power exactly equal to the useful power ; and that the power necessary for producing the first operation is, if produced in a proper manner, represented, nearly in the whole of its value, by the rarefied air of the propelling tube.

* Four Synoptic Tables on Railway Locomotion. Compiled by N. A. Burnier. John Weale, 59, High Holborn.

This special nature of operation requires, of course, for making an entire use of the advantages of the system, the construction of an apparatus in which the rarefied air can be produced by the least possible expenditure of power: viz., by a power always corresponding to the actual resistance and varying with it,—in which the rarefied air can be collected—in which this rarefied air itself can be employed, in the whole of its variable and decreasing value, to produce an equivalent power. These various objects are attained in the barometrical apparatus, so named from its similitude to a barometer.

Fig. 1.

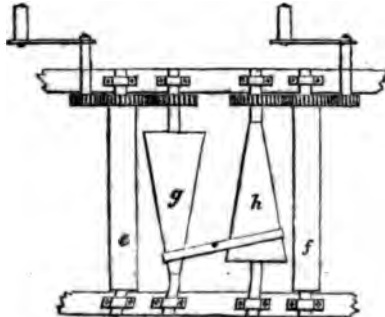


In a large reservoir, *a*, Fig. 1, full of water to a certain level, *a*, are placed two large cylinders, *bb*, *cc*, movable up and down, by means of two distinct systems of suspension, which we shall suppose to be ropes rolled on two spindles, one for each cylinder. These cylinders can, by the revolution of their respective spindles, be raised and lowered separately. The inner one, *cc*, is closed at the bottom, and entirely full of water. The outer, *bb*, adjusting itself over the first as tight as possible, to preserve its easy independent motion, is closed at the top; and its lower part, which is opened, remains constantly immersed in the water. This cylinder represents exactly the chamber of a barometer.

A cock, *k*, placed at the top of the outer cylinder, allows a communication to be opened between the interior of the cylinders and the exterior air, or the air in the propelling tube. Let us suppose, now, that we want to exhaust and work one mile, for instance, of a tube 12 inches in diameter. We shall construct our cylinders about 45 feet in height, and their diameter will be such that a space between them, 28 feet high, will be the double of the capacity of the tube. The diameter of a cylinder for the tube proposed would be about 19 feet; the level of the water in the reservoir being at the point *a*, the inner cylinder in its lowest position must always be 16 feet higher than this level; and it is from that height that we begin raising the inner cylinder. We raise it till a certain height, which is about 16 feet above the starting point, at which height the weight of the water is sufficient to open the 28 feet of space. We then cause the outer cylinder to be lowered till its top touches the top of the inner. All communication is shut between the exterior of the tanks and the exterior air, and the apparatus is ready for the operation.

Let us now suppose that the outer tank, being invariably fixed at the place where we suppose it, now, were we to let between the two cylinders the air to be rarefied, the inner cylinder, if allowed to descend, would be lowered and leave its place to the air, thus rarefying it. But if we compare, on one side, the falling power of 32 feet of water, and the resistance to extension of some air in its natural state, we find that an enormous power is employed when the resistance is very little; and that the resistance being the greatest at the end of the operation, because the air is the most rarefied—as it is the very moment at which the power is the least, because the column is lessened by its fall—the loss would be constant, enormous. We avoid this in making the water of the inner cylinder act both by its volume and by its gravity, and raise the outer cylinder with all the surplus of its power over that necessary.

Fig. 2.



For this purpose, we connect the roller, *e*, Fig. 2, of the inner tank, with the roll, *f*, of the outer, in such a manner that, on turning on one side, the other must turn on the opposite; and in order of regulating this motion, according to the surplus of power of the inner cylinder, the connecting piece of machinery is constructed on the same principle as the two cones, *g*, *h*, and the motion communicated from one to the other being in the same proportion as the two surfaces on which the belt which joins them is rolled, we can easily, by moving this belt, always make the quantity of which the outer cylinder is raised be according to the pressure of the inner cylinder.

If we thus introduce between our cylinders, so disposed and ready for working, the air of the propelling tube, the pressure of 32 feet of water, being about 30 times more considerable than the necessary pressure, we shall, for a certain space, cause the inner cylinder to descend only 1-30th of the quantity, and the outer be raised at the remainder. As the operation goes on, and the rarefaction increases, the inner cylinder is more lowered, the outer less raised, till at last our 16 feet of water have opened 28 feet of space, and we have come, the train being carried, to our original level above the water of the reservoir, 16 feet. This level is necessary, because, having some half rarefied air in the cylinders, the atmospheric pressure would press the water in if it was lower.

We have thus produced 28 feet of space with 16 feet of water, and we have got still 28 feet of rarefied air in our cylinders, the value of which is, at present, a pressure of 7.3 pounds by square inch, and will be lessened to zero when this air comes to occupy its former volume, the half of its present.

We employ this power by causing the outer tank to be lowered under the pressure exercised on its top, and raise by opposition the inner one; because, let us suppose that we have 16 feet of water in the inner cylinder, and half-rarefied air inside, the pressure on the top of the outer is exactly the same as that on the bottom of the inner, and if we let the outer one be lowered a little more rapidly than the inner is raised, the outer will raise the inner, and we cause it to be raised of a quantity which, progressively diminishing, is reduced to zero when the rarefied air comes to its normal state of density. We raise by this manner the inner tank of about 4 feet above the level of 16 feet; and thus it is no more 16 feet, but 12 feet of water which are necessary to open 28 feet of space to the air. The expression of this result is this: *the power necessary to carry a train by the Barometrical system is that capable of raising to the barometrical height of the liquid employed, a quantity of this liquid equal to the capacity of the propelling tube.* A tube of 12 inches can be worked every hour by 2½ horse power a mile.

We shall publish our practical means of constructing the apparatus, and communicating the proportional motion from one cylinder to the other; they are simple and secure.

As regards the construction of deep reservoirs, etc., we do not find that any objections can be raised against it, when, from these we derive the economical working of railways. Railways themselves are but a long chain of more costly, more difficult constructions.

By the Barometrical system, any loss of power in the working appara-

tus is avoided, but, besides, the means of producing the power are as economical as possible. The cylinders are raised by the constant and regular working of a small steam-engine ; and, as they become higher, and their resistance increases, a mechanism of the same kind as the cones does continually proportionate the resistance to the power. There is no friction in the two cylinders as in the piston of a pump, no possibility of leakage. The operation can be performed with the greatest rapidity. The unity of direction, the fixity of the power, insure safety ; and whatever be the degree of exhaustion, the weight of the train, the same apparatus does not expend for performing the operation of working more power than there is resistance, because there is always connection between them.

Fig. 3.

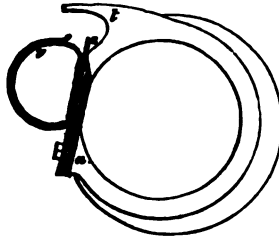
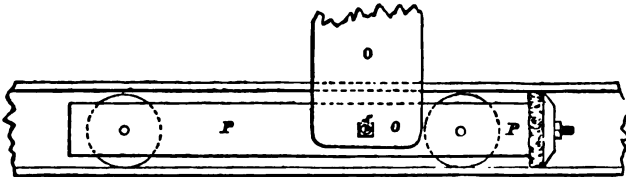


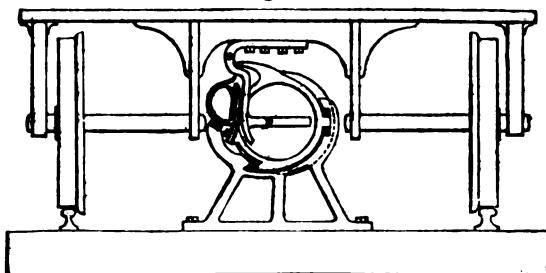
Fig. 3 represents a simple form of propelling tube, which has seemed to us to fulfil all the exigencies of its special object. A valve, altogether resistant, impermeable, and capable of receiving on its closing surfaces some lubricating material, is constantly kept and returned in its place by a hose filled with compressed air placed behind it ; some oily material left by the piston on its passage on the joint *z* prevents any interstice in it. The atmospheric pressure exercised on the large surface of the valve produces no other effect but to close it better ; and the piece *t*, cast with the tube, protects the valve against any noxious material being introduced in it.

Fig. 4.



By placing our tube in the centre of the axes (fig. 5), and making the connecting rod of the piston *o*, to be strongly fixed to the carriage, and present its connecting point *p*, in the centre of these same axes, we obtain that the resultant of the resistance of the piston carriage, and the resultant of the power, are the same lines. Joining the carriages of the trains in the same line also, we obtain that our power does not pass through any lever, the friction of which would diminish its value—that the application of the power is direct and entire.

Fig. 5.



The piston *p*, (fig. 4.) is nothing else than a massive cylinder, having at its fore part the packing material which closes the tube, and rolling upon two small wheels: the connecting rod is let loose into a square hole, transversely bored in it.

Simplicity, economy, have been our aim.

N. A. BURNIER, Ingenieur Civil.

9, *Dufour's-place*, 22 July, 1846.

NAMUR AND LIEGE RAILWAY COMPANY—GENERAL MEETING.

BRUSSELS, JULY 17.—A general public meeting of the proprietors of this railway was held at the Company's offices, No. 5, Rue Royale, Brussels, yesterday, 16th July. Captain Alexander Greig, in the absence of the president, took the chair.

In conformity with article 37 of the statutes of the Company, which requires that one-fifth of the capital should be represented at a general meeting, the chairman produced proxies, giving the directors full powers to act in the absence of the proprietors, to the number of 12,220 shares, and then declared the meeting to be duly constituted, according to the statutes.

The advertisement convening the meeting, and inserted in the London and Brussels newspapers, according to the statutes, having been read,

The Chairman addressed the meeting, and informed the proprietors present that, for the convenience of the English shareholders, who form the great body of the proprietors, and in order to give them the necessary information upon the then state of the Company's affairs, a general public meeting had been held in London, on the 17th March last, at which meeting the financial position and the general accounts of the Company, to the 5th March, were laid before the proprietors, and approved. Being desirous, however, not to neglect the interests of the Company, and wishing to fulfil all the requirements of the Belgian law, the board of directors determined to hold a general meeting at the headquarters of the Company, in order that every shareholder might have an opportunity of judging of the state of his affairs, and of the management of the directors. It was a matter of great regret to the president and vice-president of the Company, that they were unavoidably detained in England by business of importance. Mr. Greig concluded by calling upon the resident director to read the report of the directors to the proprietors.

[This report was the same as that presented to the general meeting in London on 17th March last.]

A general statement of the accounts of the Company, up to the 30th June last, was then read, by which it appeared that the whole of the preliminary and current expenses of the Company, from the date of its first formation to 30th June last, were entirely covered by the profits arising from favourable exchanges and investments of the Company's funds, and, consequently, that no charge whatever had been made on the resources of the Company on account of the management of its affairs.

A resolution was then put, and unanimously carried, expressing the satisfaction of the proprietors; and the report and statement of accounts were therefore received and adopted by the meeting.

It was then moved and seconded, and unanimously passed by the meeting, that the election of Captain Alexander Greig, as a director of this Company, approved by the meeting held in London, be confirmed.

The Chairman returned thanks, and called upon Mr. Rennie, engineer-in-chief, to give his opinion on the state of the works on the line.

Mr. Rennie stated that, as far as the preliminary part of the works was concerned, including the preparation of plans, the minute survey of every portion of the line, and the general efficiency of all the engineering arrangements, the designs of the Company were in a highly satisfactory and forward state, but that the want of decision on the part of the Government impeded the progress of the works.

Mr. Demonceau, one of the contractors for the Namur and Liege portion of the line, stated, on the part of the contractors, that the great cause of delay which had taken place was to be attributed to the extreme difficulty experienced in obtaining the land necessary for the works, particularly on that portion between Liege and Seraing. On those portions, however, where land had been obtained, as great a force as possible was employed, and materials were now being obtained, for the speedy construction of the bridges over the Meuse, as soon as the ministerial decision had been given with respect to the right or left bank of the river between the towns of Chokier and Huy.

In reply to a question from a proprietor, the Chairman stated that the minister of public works had promised to give a decision with respect to the passage of the line on the right or left bank of the river between Chokier and Huy in a few days, and in the meantime the directors would accompany the minister to the spot in order to give him their assistance in forming his judgment.

The following resolution was then adopted:—

“That this general meeting does approve the decision of the board of directors as regards the plans of the line, and is desirous that the Belgian Government should pronounce in favour of the plan from Huy to Chokier on the right bank of the river Meuse, inasmuch as it appears more advantageous, and because all the preparatory measures are completed, and the contracts for the execution of the works are taken and confirmed.”

The resident director was authorised to forward this resolution to the minister of public works.

A Shareholder inquired how long it would take to complete the whole of the works of the railway?

Mr. Stooks, resident engineer, said that it would depend upon the decision of the minister with regard to the right and left bank question. From the date of that decision, he might say that the whole of the works could be completed within two years. The bridges over the Meuse, works of great magnitude and importance, would take nearly that time to complete; but the works on the other portions of the line might be finished in less time. The works on the Mons and Manage portion of the railway were advancing rapidly, under the able management of the contractor, M. Dubois Nihoul, and would be completed sooner than the portion from Namur to Liege, no difficulties in the acquisition of land having been experienced. The portion from Liege to Seraing, which it had been expected, up to a very recent date, would be opened in the course of the next autumn, would, from the unavoidable delay in obtaining land, be delayed for several months.

In reply to a question from a shareholder, the Chairman said that there were very few shares, he believed not more than 56, upon which the second instalment of £1 10s. per share had not been paid.

The Chairman then inquired if the proprietors had any further question to put; and no reply being given, he proceeded to say that the delay which had taken place in the execution of the works was a matter of the greatest regret and disappointment to the directors, but that it was what no foresight or management of theirs could have prevented. Proprietors were aware that the contracts for the works included the acquisition of the land necessary for those works. It was the interest of the contractors to use every exertion to obtain possession of the land, but such were the forms and delays which the Belgian law interposed in cases where an amicable arrangement could not be effected between the parties, that the present delay was unavoidably occasioned. He congratulated the proprietors on the prosperous state of the Company's finances, upon the entire freedom from all preliminary and current expenses which usually formed so heavy an item in railway transactions, and upon the cheerful payment of the third instalment of the capital, due on the 2nd day of May last. He concluded by expressing a hope that the proprietors were satisfied, and by assuring them of the constant endeavours of the directors to advance and secure the interests of the Company.

Mr. Demonceau said, that he was sure he expressed the feeling of all the proprietors in Belgium when he said, that one universal sentiment of satisfaction was felt in the management of the board, and he, therefore, moved that the best thanks of the meeting be presented to the directors for their conduct of the affairs of the Company.

This resolution was carried by acclamation.

The Chairman returned thanks, and expressed his hopes that all differences as to the passage of the line on the right or left bank of the river Meuse, between Chokier and Huy, would very soon be arranged, and that the works would then proceed throughout the whole line with vigour and despatch.

The meeting then separated.—*Railway Times.*

THE
GROSS RECEIPTS OF RAILWAY TRAFFIC,

FOR

THE LAST WEEK OF JUNE AND THE THREE FIRST WEEKS OF JULY.

Int-er-vened.	Total amount already expended.	Last Dividend.		NAME OF RAILWAY.	June, last week.	July, first week.	July, second week.	July, third week.
		Per share.	Per cent. per annum.					
	£	£ s. d.	£ s. d.		£	£	£	£
000	140,203	—	3 10 0	Arbroath and Forfar	163	141	224	231
163	1,527,367	3 0 0	8 0 0	Birmingham and Gloucester .. Returns imperfect.			....	....
	667,823	{ 20s. } 12s. }	4 0 0	Bristol and Gloucester..... Returns imperfect.			....	....
000	580,302	{ 13s. } { 6s.6d. }	2 12 0	Chester and Birkenhead	650	68	774	772
	631,258	1 4 0	3 14 0	Dublin and Drogheda	862	838	878	817
000	349,736	—	9 0 0	Dublin and Kingstown	1,296	1,946	1,379	1,034
000	153,598	3 0 0	9 0 0	Dundee and Arbroath.....	324	374	345	402
000	302,118	0 10 0	2 0 0	Durham and Sunderland	487	524	526	427
921	4,000,328	{ E. 9s. } { N. } { 22s. } { 22s. }	{ E. 6l. } { N. 5l. }	Eastern Counties and Northern and Eastern	8,923	10,063	9,723	9,718
000	16,86,226	1 10 0	6 0 0	Edinburgh and Glasgow	3,011	3,324	3,705	4,497
000	1,104,773	1 10 0	6 0 0	Glasgow, Paisley, and Ayr	2,115	2,112	2,261	2,875
999	606,134	0 5 0	2 0 0	Glasgow, Paisley and Greenock ..	1,076	1,208	1,255	1,569
000	2,597,317	5 0 0	10 0 0	Grand Junction, amalg. with Birmingham.	....	....	....	....
	82,825	—	—	Gravesend and Rochester .....	....	395	390	357
000	1,296,196	5 10 0	6 0 0	Great North of England .....	....	....	....	....
000	8,179,980	3 4 0	8 0 0	Great Western.....	20,591	21,696	20,075	20,706
	—	—	—	Hartlepool.....	758	874	861	902
	791,740	1 10 0	6 0 0	Hull and Selby, amal. with York and N. Midland	....	....	....	....
975	1,774,331	5 0 0	10 0 0	Liverpool and Man., amal with Bir... Returns Imperf.	....	....	....	....
000	7,417,317	5 0 0	10 0 0	London and North Western.....	30,118	40,291	39,517	42,279
000	1,078,761	0 9 6	1 10 0	London and Blackwall	1,334	1,526	1,476	1,598
000	2,653,673	1 15 0	7 0 0	London and Brighton	6,149	6,910	6,973	7,870
333	842,592	0 7 0	3 10 0	London and Croydon.....	1,877	1,942	1,977	2,033
000	2,620,724	2 2 6	10 4 10	London and South Western....	8,021	8,299	8,092	8,779
000	2,197,585	1 3 10½	6 2 4	Manchester and Birmingham ..	4,593	4,547	4,315	4,511
333	3,372,240	2 18 0	8 0 0	Manchester and Leeds	6,749	6,911	6,898	7,571
000	642,725	2 14 0	6 16 0	Manchester and Bolton, and Bury	1,055	1,202	1,151	1,181
800	6,636,105	3 13 9	7 7 6	Midland.....	17,710	17,251	17,596	18,178
000	1,137,385	—	5 0 0	Newcastle and Carlisle	2,010	2,641	2,027	3,032
	1,272,031	1 2 0	9 0 0	Newcastle and Darlington	3,971	2,935	3,086	4,434
000	310,869	1 5 6	5 0 0	Newcastle and North Shields ..	756	620	548	715
	573,818	0 10 0	5 0 0	Norfolk	1,423	2,078	1,627	1,836
	1,060,551	3 7 6	6 15 0	N. Union & Bolton & Preston, amalg. with Man. and Leeds	....	....	....	....
000	432,014	0 12 6	2 10 0	Preston and Wyre	954	1,090	1,137	1,297
000	1,313,225	—	5 0 0	Sheffield and Manchester.....	1,655	1,887	1,887	2,054
377	4,284,924	0 16 0	3 4 0	South-Eastern and Dover	8,560	9,246	9,243	9,700
000	648,348	3 8 0	5 0 0	Taff Vale	1,233	1,298	1,240	1,278
000	358,358	—	5 10 0	Ulster .....	....	578	....	740
000	1,032,359	50s., 25s.	10 0 0	York and North Midland.....	5,894	5,811	6,615	7,252
				FOREIGN RAILWAYS.				
000	2,082,916	0 18 9	8 0 0	Paris and Orleans	7,066	7,053	....	....
000	—	0 18 6	8 0 0	Paris and Rouen.....	6,144	6,578	6,512	5 78

Shares.	Railways.	Paid.	CLOSING PRICES.						
			July 7.	July 14.	July 21.	July 28.			
£		£							
50	Aberdeen	10	7	6	dis	6½	5½	dis	6½
100	Amber, Nott, Boston, & E. Jun. Birmingham and Gloucester ..	100	127	129	dis	129	131	159	131
25	Do. New (issued at 7½ dis.) ..	17½	31½	32½		32	33	34	33
20	Birmingham and Oxford Junct. ..	2	1½	3	pm	2	2½	pm	3
100	Bristol and Exeter	75	6	8	pm	6	8	pm	8
35½	Do. New	5	4	5	pm	4	5	pm	5
50	Bristol and Gloucester	30	20	22	pm	21	23	pm	23
50	Buckinghamshire	42s.							
50	Caledonian	20	6	5½	dis	6½	6½	dis	6½
25	Do. ½ Shares	24	12	11½	dis	12	11½	dis	12
25	Do. Extension	24	1	0½	dis	1	0½	dis	1
50	Cambridge and Oxford	1½	1	0½	dis	1	0½	dis	1
20	Chester and Holyhead	27½	2	1	dis	2	1	dis	2
20	Churnet and Blythe	2			pm			pm	
25	Cork and Waterford	1½							
50	Cornwall	5	5	4	dis	5	4	dis	5
25	Derby and Crews	24	4½	4½	pm	4½	4½	pm	4½
50	Direct Manchest. (Remington's) ..	24	2½	1½	dis	2½	1½	dis	2½
25	Do. do. (Rastrick's) ..	54	18	18	dis	18	18	dis	18
25	Direct Northern	24	1½	1½	dis	1½	1½	dis	1½
50	Dublin and Belfast Junction ..	10	5	3	dis	5	3	dis	5
40	Dublin and Galway	4	2½	2	dis	2½	2	dis	2½
Average	Eastern Counties	14.16.0	24	24		24	24		24
14.16	Do. New	10.16.0	7½	3½	pm	8	8	pm	7½
6.15.4	Do. Perpet. 5 per cent. No. 1 ..	8.13.4			ex d			ex d	
6.15.4	Do. do. No. 2	8.13.4			pm			pm	
50	Do. York Extension	10s.	1	1	pm	1	1	pm	1
50	East Lincolnshire	1½			dis			dis	
25	Edinburgh and Glasgow	50	73	73		70	74		74
12½	Do. ½ Shares	10				17	18		18
12½	Do. ¾ Shares	12½	17	18		17	18		18
18	Do. New ¾ Shares	12½	17	18		17	18		18
18	Edinburgh and Perth	3							
20	Ely and Huntingdon	7½	4	3	dis	4	3	dis	4
25	Gloucester, Aberystwith, and Central of Wales	42s.		0½	dis			dis	
25	Goole, Doncaster, and Sheffield Grand Union (Notting. & Lynn) ..	1½			dis			dis	
20	Great Eastern and Western								
50	Great Grimsby, Louth, Horn-castle, Linc., and Mid. Junc. ..	25	3	3	pm	3	3	pm	3
100	Great South. & West. (Ireland) ..	100	228	228		228	228		228
40	Do. New	5	52	54	pm	53	55	pm	54
30	Do. New	15	33	35		33	34		35
15	Do. New	1½	15	17	pm	15	17	pm	16
100	Great Western	85	65	67		66	68		68
20	Do. ½ Shares	50	33	35		34	36		36
20	Do. ¾ Shares	10	12	13		12	14		13
20	Do. Fifths	20	13	14		13	14	pm	13
50	Guildford, Fareham, & Portsh. ..	5	½	½	dis	107	107	dis	107
12½	Hull and Selby	50	106	106		9	10		10
25	Do. ½ Shares	12½	8	10	pm	9	10	pm	9
25	Do. ¾ Shares	15	33½	34½	pm	33½	34½	pm	33½
20	Lancaster and Carlisle	45	14	16	pm	15	17	pm	16
50	Do. New	5	4	5	pm	4½	5½	pm	4½
20	Leeds and Bradford	26	38	40		38	40		40
20	Leicester and Birmingham	22s.		0½	dis		0½	dis	
20	Leicester and Bedford	22s.			dis			dis	
20	Leicester, Tamw. Cov., Birn., and Trent Valley Junction ..	42s.	1	0½	dis	1	0½	dis	1
25	Liverpool and Leeds Direct. ..								
25	Liverpool, Manchester, and Newcastle Junction ..	2½							
Stock	London and Birmingham	100	222	224	pm	225	227	pm	228
25	Do. Thirds	32	38½	39½	pm	38½	39½	pm	38½
25	Do. Quarters	2	27	28	pm	27	28	pm	27
20	Do. Fifths	2	23	24		23	24	pm	24
Average	London and Birn. Extension ..	1½							
50	London and Blackwall	16.13.4	8	8	ex int	9	9	ex int	9
50	Do. New	5		1½	ex int	3	3½	ex int	3
50	Do. Extension	5							
Average	London and Brighton	50	65½	66½		66	66		66½
50	Do. Consolidated Eighth. ..	30	12	13	pm	12	13	pm	12
Average	Do. do. Fifths	15.15.9	22½	23		23	23½		23½
Average	London and Croydon	9.0.0	9	10	ex d	9	10	ex d	9
Average	Do. Guaranteed 5 per Cent. ..	12.15.4	9	10		9	10		10
Average	Do. Preference or Privilege ..	15.17.2	22	24		22	24		24
Average	London and South Western ..	41.6.10	77	79		78	80		79
40	Do. New Jansol Eighth. ..	40	18	20	pm	18	20	pm	18
50	Do. New	17½	11½	12		11	12		12
40	Do. New	14	8	10		8	10		9

es.	Railways.	Paid.	CLOSING PRICES.			
			July 7.	July 14.	July 21.	July 28.
	London and York	2½	1½ — 1 dis	1½ — 1½ dis	1½ — 1½ dis	1½ — 1½ dis
	Do. Shares	2½	.. ..	.. ..	.. ..	.. ..
	Lond., Warwick, and Kidderminster	2½	1½ — 0½ dis	1½ — 1½ dis	1½ — 1½ dis	1½ — 1½ dis
	Londonderry and Coleraine	10	7½ — 5½ dis	7 — 5½ dis	8 — 6 dis	8 — 6 dis
	Londonderry and Enniskillen	19	.. ..	.. ..	.. ..	.. ..
	Lynn and Ely	15	3 — 2	3 — 2 dis	.. ..	.. ..
	Lynn and Dereham	15	5½ — 4 dis	5½ — 4 dis	5 — 3 dis	5 — 3 dis
	Manchester and Leeds	82	35 — 40 pm	35 — 40 pm	35 — 40 pm	34 — 38 pm
	Do. Shares	38	15 — 20	15 — 20	15 — 20	13 — 18
	Do. Shares	2	7 — 8	7 — 8	6½ — 7½	6½ — 7½
	Do. Fifths	3	8 — 9 pm	8 — 9 pm	7½ — 8½ pm	7½ — 8½ pm
	Do. Sixteenths	0½	3 — 3½ pm	3 — 3½ pm	3 — 3½ pm	3 — 3½ pm
	Do. Extension	42s.	2½ — 2½ pm	2½ — 2½ pm	2 — 2½ pm	2 — 2½ pm
	Manchester and Birmingham	40	83 — 85	83 — 85	81 — 86	85 — 87
	Do. Shares, A	4	9½ — 10½	9½ — 10½	10½ — 10½	10½ — 11½
	Do. do. B	4	9 — 10½	9½ — 10	10½ — 10½	11 — 11½
	Do. do. C	1	9 — 9½	9 — 9½	9½ — 9½	10½ — 10½
	Do. Contin. and Welsh Junc.	.. ..	.. .. pm	.. .. pm	.. ..	.. .. pm
	Manch. Huxton and Matlock	42s.	1 — 1 pm	.. ..	.. ..	.. .. pm
	Manchester and Southampton	2	.. ..	.. ..	.. ..	.. ..
	Midland	100	150 — 152	150 — 152	149 — 151	149 — 151
	Do. New	24	14½ — 5½ pm	15 — 16 pm	5 — 16 pm	15 — 16 pm
	Do. Birmingham and Derby	10½	121 — 123	122 — 124	121 — 123	121 — 123
	Newcastle & Darlington Junc.	25	19 — 21 pm	20 — 20 pm	21 — 23 pm	18 — 20 pm
	Do. New	1	9 — 10 pm	9½ — 10½	10½ — 11½ pm	9½ — 10½ pm
	Do. New Brundling	25	18 — 20 pm	19 — 21 pm	20 — 22 pm	18 — 20 pm
	Newcastle and Berwick	15	10½ — 11½	11 — 12	11 — 12	2½ — 13½
	Newark, Sheffield and Boston	1½	.. .. dis	0½ — 0½ dis	.. .. dis	0½ — 0½ dis
	Norfolk	20	3½ — 6½ pm	6 — 7 pm	7 — 8 pm	7 — 8 pm
	Do. Shares	5	2½ — 3½	3 — 4	3½ — 4 pm	3 — 4 pm
	Do. Tenth	2	.. .. pm	.. .. pm	.. .. pm	.. .. pm
	Do. Extension	2	par — 4 pm	par — 4 pm	par — 4 pm	par — 4 pm
	North British	25	7½ — 7½ pm	8 — 8½ pm	9 — 9½ pm	11 — 12 pm
	Do. Shares	8½	2½ — 3 pm	3½ — 3½ pm	4 — 4½ pm	3½ — 5½ pm
	Do. Carlisle Extension	14	.. ..	1½ — 1½ pm	1½ — 1½ pm	1½ — 2½ pm
	Do. Dalkith	.. ..	.. ..	.. ..	.. ..	.. ..
	Do. do.	.. ..	.. ..	.. ..	.. ..	.. ..
	Northern and Eastern	50	73 — 75	73 — 75	74 — 76	75 — 77
	Do. Scrip (issued at 5 disc.)	45	22 — 24 pm	22 — 24 pm	24 — 26 pm	25 — 27 pm
	Do. ½ Share	12½	18 — 19	18 — 19	18 — 19	18 — 19
	Do. New	1	19 — 21 pm	19 — 21 pm	20 — 22 pm	20 — 22 pm
	North Kent and Direct Dover	2½	1½ — 0½ dis	1 — 0½ dis	1 — 0½ dis	0½ — 0½ dis
	North Staffordshire	42s.	3½ — 4½ pm	3½ — 3½ pm	3 — 3½ pm	3½ — 3½ pm
	North Wales	3½	.. ..	.. ..	.. ..	.. ..
	Northampton, Banbury, and Cheltenham	2	1½ — 0½ dis	1½ — 0½	.. .. dis	.. .. 0½ dis
	Norwich and Brandon	.. ..	.. ..	.. ..	.. ..	.. ..
	Do. New	.. ..	.. ..	.. ..	.. ..	.. ..
	Oxf., Worcester, and Wolverh.	12½	5 — 4 dis	5½ — 4 dis	5½ — 4½ dis	5 — 4½ dis
	Perth and Inverness	.. ..	.. ..	.. ..	.. ..	.. ..
	Portsmouth Direct	3½	.. .. 1 pm	.. .. 1 pm	.. .. 1 pm	.. .. 1 pm
	Preston and Wyre	25	30 — 31	30½ — 31½	32 — 33	34 — 36
	Do. Shares	24	.. ..	.. ..	.. ..	.. ..
	Richmond	10	7½ — 8½ pm	7½ — 8½ pm	8 — 9 pm	7½ — 8½ pm
	Rugby and Huntingdon	.. ..	.. ..	.. ..	.. ..	.. ..
	Scottish Central	12½	5½ — 6½ pm	5½ — 6½ pm	6½ — 7½ pm	6½ — 7½ pm
	Do. New	2½	4½ — 5½ pm	4½ — 5½ pm	5½ — 6½ pm	5½ — 6½ pm
	Scottish Midland	10	3½ — 2½ dis	3½ — 2½ dis	3½ — 2½ dis	3½ — 2½ dis
	Shrewsbury, Wolverhampton, and Sth Staffordshire Junc.	24	.. ..	.. ..	.. ..	.. ..
	Shrewsbury and Birmingham	2½	1 — 1 pm	par — 1 pm	.. .. dis	1 dis — 1 par
	Shrewsbury and Hereford	.. ..	.. ..	.. ..	.. ..	.. ..
	Shropshire Union	42s.	1½ — 1 dis	1½ — 1 dis	1½ — 1½ dis	1½ — 1 dis
	South Devon	35	2 dis — par	2 dis — par	2 dis — par	3 — 1 dis
	South Midland	42s.	2 — 1½ dis	2 — 1½ dis	2 dis — par	.. .. pm
	South Staffordshire Junction	.. ..	.. ..	.. ..	.. ..	.. ..
	South Eastern and Dover	33s. 4	40 — 41	43 — 44	44 — 44½	45 — 46
	Do. New (issd. at £32) No. 1.	16	4 — 5 pm	6 — 7 pm	6 — 7 pm	7 — 7½ pm
	Do. New (£33 6s. 8d.) No. 2.	10	3½ — 4½	5 — 6	5 — 6 pm	6 — 6½
	Do. New (£30) No. 3.	15	3 — 4 pm	4 — 5 pm	4 — 5 pm	5½ — 6½ pm
	Do. New (issd. at £15) No 4.	24	.. .. pm	.. .. pm	.. .. pm	.. .. pm
	Staines and Richmond	1	.. .. dis	.. .. par	2 dis —	par — par
	St. Alban's, Hatfield, & Hertford Junction	42s.	.. ..	.. ..	.. ..	.. ..
	South Wales	5	3½ — 3½ dis	3½ — 3½ dis	3½ — 3½ dis	3½ — 3 dis
	Tea and Dove Valley	.. ..	.. ..	.. ..	.. ..	.. ..
	Trent Valley and Holyd. Junc.	2½	.. ..	.. ..	.. ..	.. ..
	Vale of Neath	2	.. ..	.. ..	.. ..	.. ..
	Warwickshire and London	42s.	.. ..	.. ..	.. ..	.. ..
	Waterford and Kilkenny	8	5 — 4 dis	5 — 4 dis	5 — 4 dis	5½ — 4½ dis
	Waterford, Wexford, Wicklow, and Dublin	1½	.. ..	.. ..	.. ..	.. ..
	Welsh Midland	2½	1½ — 1 dis	1½ — 1 dis	1½ — 1½ dis	1½ — 1½ dis

Shares.	Railways.	Paid.	Closing Prices.			
			July 7.	July 14.	July 21.	July
£	Wexford, Waterfd, & Valentia	1½	1½ — 1 dis	1½ — 1 dis	1½ — 1 dis	1½ —
50	West Riding Union	45s.	2½ — 2½ pm	2½ — 2½ pm	2 — 2½ pm	2 —
	Wills, Somerset, & Weymouth	10	5 — 4 dis	5½ — 4½ dis	5 — 4 dis	5½ —
	Wisbech, St. Ives, and Cambridge Junction	2	.. ..	.. ..	.. ..	.. ..
20	Yarmouth and Norwich	..	.. ..	.. ..	.. ..	.. ..
50	York and Carlisle	2½	2 — 1½ dis	2 — 1½ dis	2½ — 1½ dis	2½ —
50	York and North Midland	25	98 — 100	99 — 101	99 — 101	100 —
25	Do. ½ Shares	45	48 — 50	49 — 51	49 — 51	50 —
25	Do. Scarborough Branch	25	48 — 50	49 — 51	47 — 51	49 —
50	Do. Selby	30	44 — 46 pm	45 — 47 pm	47 — 49 pm	46 —
25	Do. Extension	20	18 — 20 pm	20 — 21 pm	20½ — 21½ pm	20 —
	Do. E. & W. Riding Extensn.	1	11 — 12 pm	12 — 13 pm	12½ — 13½ pm	12 —

FOREIGN RAILWAYS.

25	Barbadoes	1
20	Boulogne and Amiens	14	1½ — 1½ dis	1½ — 1½ dis	1½ — 1½ dis	1½ —	
20	Bordeaux, Toulouse, & Cette, (Mackenzie's)	9	½ — ½ dis	½ — 0½ dis	½ — ½ dis	½ —	
25	Bordeaux, Toulouse, & Cette, (Espinete's)	2	½ — ½ dis	½ — 0½ dis	1½ — 1 dis	1 —	
20	Calcutta & Diamond Harbour	7s.	.. ..	.. ..	.. ..	.. ..
20	Central of Spain	2	.. ..	1½ — 1 dis	1½ — 1½ dis	1½ —
	Ceylon	5s.	.. ..	.. ..	.. ..	.. ..
	Demerara	2½	½ dis	½ pm	½ dis	½ pm	
20	Dendre Valley	2	2 — 1½ dis	2 — 1½ dis	2 — 1½ dis	2 —	
20	Dutch Rhenish	6	1½ — 1½ pm	2 — 1 pm	2 — 1½ pm	2 —	
	East Indian	5s.	.. ..	.. ..	.. ..	.. ..
	Great Indian Peninsula	5s.	.. ..	.. ..	.. ..	.. ..
20	Gt. North. of France (constitd.)	5	8½ — 8½ pm	8½ — 8½ pm	7½ — 7½ exd	7½ —	
20	Great Paris and Lyons	5	.. ..	.. ..	.. ..	.. ..
	Great Western Bengal	5	.. ..	.. ..	.. ..	.. ..
22½	Great Western Canada	3½	.. ..	.. ..	.. ..	.. ..
	Italian and Austrian	3	.. ..	.. ..	.. ..	.. ..
20	Jamaica South Midland Junc.	1	½ dis	par	½ dis	½ dis	
15	Jamaica North Midland	..	.. ..	.. ..	.. ..	.. ..
20	Do. Extension	1	.. ..	.. ..	.. ..	.. ..
	Jersey	1	.. ..	.. ..	.. ..	.. ..
	Louvain and Jemappe	5	3½ — 3 dis	3½ — 3 dis	3½ — 3 dis	3½ —	
	Lyons and Avignon	2	½ dis	par	½ dis	par	
20	Luxembourg	4	2½ — 1½ dis	2½ — 1½ dis	2½ — 2 dis	2½ —	
20	Namur and Liege	6	3 — 2½ dis	3 — 2½ dis	3 — 2½ dis	3 —	
20	Orleans and Vierzon	10	4½ — 5½ pm	4½ — 5½ pm	3½ — 4½ pm	3½ —	
20	Orleans and Bordeaux	6	3 — 3 pm	2½ — 3 pm	0 — 1½ exd	1½ —	
20.16.8	Over-Yssel	4.3.4	3½ — 2½ dis	3½ — 2½ dis	3 — 2½ dis	3 —	
	Paris and Lyons (constituted)	5	.. ..	1½ pm	par	½ pm
20	Do. do. (Laffite's)	..	.. ..	.. ..	.. ..	.. ..
20	Do. do. (Ganneron's)	..	.. ..	.. ..	.. ..	.. ..
20	Do. do. (Caton's)	..	.. ..	.. ..	.. ..	.. ..
	Do. do. (Sud Est)	..	.. ..	.. ..	.. ..	.. ..
20	Paris and Orleans	20	48½ — 49½ exd	48 — 49 exd	48 — 49	48½ —	
20	Paris and Rouen	20	39 — 40	38 — 39	37 — 38	38 —	
	Paris and Strasbourg (const.)	5	1 — 0½ dis	1 — 0½ dis	1½ — 0½ dis	1½ —	
	Do. do. (Compe de L'Est)	..	.. ..	.. ..	.. ..	.. ..
20	Rouen and Havre	20	28 — 29	27½ — 28½	26 — 27	27½ —	
20	Sambre and Meuse	8	4 — 3½ dis	4½ — 3½ dis	4½ — 3½ dis	4½ —	
14	Strasbourg and Bale	14	7½ — 8½	7½ — 8½	7½ — 8½	7½ —	
	Tours & Nantes (constituted)	5	½ dis	½ pm	½ dis	½ dis	
20	West Flanders	6	3 — 2 dis	4 — 3 dis	3 — 3 dis	3 —	

INDIAN RAILWAYS.

Report on Indian Railways, by F. W. SIMMS, C.E., Consulting Engineer to the Government of India, and Director of the Railway Department; A. H. C. BOILEAU, Captain Bengal Engineers; and J. R. WESTERN, Captain Bengal Engineers. Dated 13th of March, 1846.

THE report of Mr. Simms has at length seen the light under peculiar circumstances. Having been sent round to the privileged companies, marked "private and confidential," directors at meetings carefully keeping the pledge, and refusing to exhibit the document, or even to quote from it—after non-privileged persons had begged and prayed fruitlessly, in every quarter, to get a sight of the precious document, all of a sudden it appears *in extenso* in the *Times*, by virtue of one of those arrangements to which it is unnecessary further to allude than to say they constitute one of the chief features of the leading organ. Does Lord Durham bring out a confidential report, which even the Lords have not seen? The *Times* publishes it. Is some secret treaty floated? some cabinet measure in petto? The bonds of official reserve are rudely snapped asunder by its appearance in the *Times*. The grand repository for the promulgation of all secrets is the *Times*, to the sore inconvenience of sovereigns, revolutionists, diplomatists, cabinet ministers, red-tapists, and poor-law commissioners; and we know but of one way in which these parties can remedy the evil and reserve their secrets, and that is, by publishing at once in some other paper, when no one will believe it, and the *Times* will be tabooed from entering upon what another has been beforehand in. We believe this would be almost as effectual as drawing a magic circle round a ghost. For our own parts, our great reason for not believing that Captain Warner has a secret is because it has not yet been published in the *Times*.

The appearance of Mr. Simms' report is welcome; for, in the first place, it tends to remove the objections which had been made to his personal appointment. Of course the objection to the appointment of any railway commission at all is not removed, for its evils have been already felt in the delay which has taken place in the prosecution of railways in India, by which a most favourable state of the money-market has been lost, and the hazard of a prolonged monetary crisis is to be encountered.

Mr. Simms has, however, shown such discretion in the steps he has as yet taken, and such a liberal view of his duties, that his continuance in office will be looked to as a guarantee against any less auspicious appointment.

Mr. Simms and his coadjutors at once vindicate the propriety of railways in India, and show that the local difficulties assumed present no valid objection. Certainly the chief cause of doubt and hesitation was the heavy effect to be anticipated from the season, rains, and floods. We answered this by referring to facts, and the experience of India itself; and Mr. Simms adopts the same course. He says, the practical

bility of keeping a railway in order, is shown by the existence of dykes and roads, metalled and unmettled in various parts of the country, which are kept in order at a trifling outlay. We would add, that an example much more familiar, that of Egypt—a country open to the widest river floods, is that in which earthworks have for thousands of years withstood the utmost power of time, season, and weather.

In the same way the report answers the cavils as to the action of strong winds and a vertical sun. With regard to the boring and burrowing of insects and vermin, if Mr. Simms speaks in a less positive manner, the assurance he gives is not less satisfactory. It is matter of experiment what timber will resist damp or insects, while the resources of science, as applied at home, have yet to be tried. At the same time, if sleepers cannot be used, at the worst, we have only to go back to the old Birmingham construction, and try stone blocks. The burrowing and undermining of rats, crabs, otters, &c., are to be warded off by care and watchfulness; and it is to be noted, that the ravages of these vermin are not confined to the east, but in the Netherlands they are just as much felt, and there is the same guard required on a sea dyke as there may be on a Bengal embankment.

The quick growth of herbage and underwood is likewise to be guarded against, and it falls to the lot of those having charge of the permanent way to see to the rooting out of all weeds and plants.

The physical obstacles to the making of railways in India are thus combated, and we trust that no imaginary financial difficulties will be allowed to stand in the way, but that the railway system will be allowed to do its best, free and unshackled.

We shall now give at length the report of Mr. Simms and his coadjutors, which is indispensable to the completeness of our collection on the subject of railways in India:—

1. We have the honour to submit our report upon the practicability of introducing a system of railways into India, and of their application to the peculiarities and circumstances of the country and climate. To answer the questions relative thereto, as proposed in the minutes of the Honourable the Court of Directors, of the 7th May, 1845, and likewise to make our report from a personal examination of the country, upon the direction of a line to be recommended for a railroad from Calcutta to Mirzapore and the north-west provinces.

2. We would commence by stating our opinion that railroads are not inapplicable to the peculiarities and circumstances of India; but, on the contrary, are not only a great desideratum, but, with proper attention, can be constructed and maintained as perfectly as in any part of Europe. The great extent of its vast plains, which may, in some directions, be traversed for hundreds of miles without encountering any serious undulations, the small outlay required for parliamentary or legislative purposes, the low value of land, cheapness of labour, and the general facilities for procuring building materials, may all be quoted as reasons why the introduction of a system of railroads is applicable to India.

3. In the minute of the Hon. Court of Directors of the 7th of May, 1845, the following occurs in the third paragraph: "Independently of the difficulties common to railroads in all countries, there are others peculiar to the climate and circumstances of India, which may render it

advisable that the first attempt should be made on a limited scale. These peculiar difficulties may be classed under the following heads, viz. :—1. Periodical rains and inundations. 2. The continued action of violent winds and the influence of a vertical sun. 3. The ravages of insects and vermin upon timber and earthwork. 4. The destructive effects of the spontaneous vegetation of underwood upon earth and brickwork. 5. The unenclosed and unprotected tracts of country through which railroads would pass. 6. The difficulty and expense of securing the services of competent and trustworthy engineers."

4. To these difficulties we beg to reply as follows :—

I. *As to the periodical rains and inundations.*—We do not expect that, with a judiciously-selected and well-constructed line, any serious mischief to the works may be anticipated from this cause, nothing but what a moderate annual outlay will set to rights. The practicability of keeping a railway in order is shown by the existence of bunds and roads, both metalled and unmettled, in various parts of the country, which are kept in order at a trifling outlay. It must, however, be borne in mind, that, although this opinion is based upon what we have ourselves witnessed as the effect of a season when the floods were unusually high, both in Bengal and the Upper Provinces, yet, in after years, unprecedented inundations may occur, causing serious damage to works which shall have been constructed with a view to resisting only the highest floods hitherto known.

II. *The continued action of violent winds and influence of a vertical sun.*—Suitable arrangements in the construction of the works will overcome any difficulty arising from these causes as to the line itself. These effects will be more felt in working the trains, especially the wind, at high velocities, but no fears need be entertained upon this subject as to the ultimate result, though, during the prevalence of the hot winds, more than usual attention will be requisite in watching and guarding against the effects of friction of such parts of the engines or carriages that may be exposed to the most intense heat.

III. *The ravages of insects and vermin upon timber and earthwork.*—If the information we have received be correct, that the destructive action of insects upon the teak and iron wood of Arracan amounts to nothing, or next to nothing, that question is at once disposed of; but should further investigation show that such is not the fact, recourse must be had either to the use of stone, or to the employment of one or more of the various preparations for timber now in use in England, which it is probable may also be found desirable on the score of economy to render the timber more durable. This, however, at present, is by no means certain. Captain Western, who has been in Arracan, states that he would not guarantee teak as resisting damp and insects, but iron wood he knows, from practical experience, to resist both; and has seen a post taken up, after having been in the ground fifteen years, as sound as the day it was put in. To the earthwork no serious mischief is to be apprehended from this cause, if the overseers and labourers on the line discharge their duties in a proper manner. It is true that earthworks in the Upper Provinces, constructed in a loose soil, have occasionally been damaged by the undermining of rats, crabs, otters, or other burrowing animals, but it appears that constant vigilance would provide an effectual remedy for this, as well as for the next following difficulty.

IV. *The destructive effects of the spontaneous vegetation of underwood upon earth and brickwork.*—To obviate this evil, nothing more is required than a faithful discharge of the duties of the overseers and labourers, in rooting up every germ of such vegetation as soon as it appears. Captain Boileau suggests that the attention of the persons in charge of those portions of the line passing through young saul forests must be particularly directed to this point, as trees of this kind, after having been cut down to clear ways for trigonometrical operations, have been known to spring up again to an altitude of about fifteen feet in two years; and in various parts of the country, the rapid growth of Palma Christi (the castor oil plant), the gigantic reed called Surkunda and Nurrul, and many other such wild productions, may give considerable trouble, though the strong roots of the latter are admirably adapted for giving stability to an earthen bank. The roots of the Peepul tree are particularly injurious to brickwork, but are tolerably easy of extraction.

V. *The unenclosed and unprotected tracts of country.*—A fence similar to our quick fences in England will answer through the open and cultivated parts of the country, which may or may not be employed through the districts covered with jungle, as circumstances may require. Such fence may be formed of the plant called the Berandu, or the Mysore thorn, or the prickly pear, all of which, and perhaps many others, if kept well trimmed, would make a suitable fence. In several localities where stone is obtainable in abundance, this material might, and, in certain cases, where the soil is too barren for the growth of hedges, must be used for boundary walls, and in the vicinity of saul forests, the exceeding straightness of this wood renders it particularly valuable for the construction of posts and railing.

VI. *The difficulty and expense of securing competent and trustworthy engineers.*—This difficulty, we make no doubt, will be overcome by a suitable arrangement by the railway companies at an early period. Such, we should think, would be the sending a few native, or East Indian, young men to England to be trained, until some engines are ready to be sent to India; upon their return in charge of such engines, and under the superintendence of one or two English engineers, there would be laid the foundation for the training of as many native engine drivers as might be required. Such native youths, while in England, should not only be instructed to drive an engine, but to repair them when out of order.

5. In the second paragraph of the minute of the Hon. Court of Directors, allusion is made to the probable returns of merchandise and passengers. This appears to be one of the bearings to be investigated and reported upon by us, but from an entire want of statistical information, we are at present unable to give any opinion.

6. With the above view of the case we should not deem it inexpedient or unwise to attempt the introduction of railways into India to any extent that private enterprise might be found willing to embark capital upon; subject, however, to whatever equitable conditions and regulations the Government might think proper to require for the promotion of their own, and the general interests of the country at large, at the same time having due regard to that of the parties engaged in the enterprise.

7. As, however, the Hon. Court of Directors have, the fourth paragraph of their minute, dated 7th May in 1845, noted, for the instruction of this committee, that one of its objects will be "to suggest some feasible line, of moderate length, as an experiment for railroad communication in India," we beg to suggest that there is a line in the North-West Provinces which would answer admirably as an experimental line, viz., from Allahabad to Cawnpore; but if this line be thought too extensive, as an experimental one, we believe that a line from Calcutta to Barrackpore would find no lack of British capitalists, both able and willing to undertake its immediate construction.

8. Having thus expressed our opinion in general upon the subject of introducing railways into India, we will proceed to describe the route we would recommend from personal examination of the country for a line of railway, connecting Calcutta with Mirzapore, and from thence to Delhi and the north-west frontier.

9. On the line from Calcutta to the north-west provinces, first impressions would lead to the supposition, that the proper direction for a line of railway, connecting Calcutta with the north-west provinces, passing through Mirzapore, would be to cross the river Hooghly at Calcutta, and proceed in the direction of Bankorra; this course would make the railway across a district of country, not only subject to periodical inundations that are among the greatest in the lower provinces of Bengal, but, in the event of the breaching of the bunds of the Dumoodur, and other rivers, that it would have to cross (as was the case during the last rainy season), would be subject to the action of powerful torrents acting injuriously, if not destructively, upon the works of any railway. These considerations led to an examination of the country further to the northward, which, commencing at Calcutta, was extended along the left or east bank of the Hooghly, past Barrackpore, and crossing the river a little below Chandernagore at right angles to its stream. The line would then leave Chinsura and Hooghly on the right, and cross the trunk-road to Benares, near to Mucklumpore, and from thence, nearly in a straight line, to Burdwan; at this place it would cross the Banka Nulla, and be continued nearly parallel to the trunk-road, and enter upon the land that rises above the general level of the periodical inundation.

10. The object in making this apparent *detour* is, that by flanking the Dumoodur, we should, in part, escape the water that flows towards the sea in the direction of that large river, but not be wholly free from its effects; and whenever an occurrence should hereafter take place, similar to what took place during the late inundation (viz., the breaching of the bunds of the river), a considerable amount of damage would arise to the works of the railway.

11. So long as the water is confined within the river banks, no material injury would arise to the works of the railway, simply from the submersion of the country during the rains; but upon the accident before named, the body and rush of water were so great as entirely to undermine and destroy a bridge near Dulla Bazaar, and to threaten destruction to the bridge over the Banka Nulla at Burdwan, by which Nulla, the surplus waters, in a great degree, found their vent towards the river Hooghly.

12. In addition to the foregoing considerations, it is possible that hereafter it may be considered advisable to abandon the preservation of

the river bunds, and to allow the waters during the rainy season to overflow the surrounding country, in the expectation that the sedimentary matter that is now raising the bed of the river may overspread the country, and tend to raise the general level. (This has been hinted to us as a suggestion that has been made, but upon which we must be understood to give no opinion.) Such a procedure would have an effect upon the railway works that is difficult to foresee or provide for, except, in all probability, by the construction of a larger quantity of viaduct for the free passage of the waters, than would otherwise be necessary, and thus increase the cost and maintenance of the works.

13. The above considerations and information obtained from Lieutenant-Colonel Forbes, Captain Anderson, &c., led to an examination of the country still further to the northward, from which it appears that a very advantageous line of country for a railway exists on the left bank of the Hooghly, and crosses that river at a short distance below where it is first formed (or takes that name) by the junction of the Bhagiruttee and Jellinghee at Nuddea, from which, crossing, it would proceed due west, and pass about ten miles to the north of Burdwan, near to a place called Balkeshun.

14. This line would quit Calcutta at its northern extremity, skirt the gun foundry at Cossipore, and take a direct line northwards, nearly parallel to the Barrackpore road, which it would cross at the bend, near Barrackpore. Hereabouts a station for the accommodation of that district might be advantageously established, from thence it might follow the general direction of the river to accommodate Chinsura and Hooghly, &c., and onward by a straight course to Goonpulla on the road between Barrasut and Ranaghat.

15. As regards simply the construction of a railway, it might with equal advantage to the works be constructed in a straight line from Calcutta to Goonpulla, and thus, by avoiding Barrackpore, &c., would be a little shorter in distance than by that route, but it appears preferable to adopt the former line, for the accommodation of that and the neighbouring localities of Serampore, Chandernagore, Chinsura, Hooghly, &c., which would then more than ever become the favourite resort of the citizens of Calcutta, and be a source of remuneration to the railway itself.

16. From Goonpulla the line would take nearly a straight line towards Ranaghat, near which it would cross the Matabhanga River, and from thence proceed almost parallel to the road leading to Kishnagur, but gradually trending to the north-west, and cross the road from Kishnagur to Santipore, near to a place called Dignagur, it would then continue to curve until it crossed the Hooghly, near to an indigo factory, called Punchilla, which is south of the junction of the Idinghee and Bhageruttee, as before described.

17. After crossing the river, the railway would be carried in nearly a straight line past Singalee, Baljoree, and Balkishure, which is the place before alluded to as ten miles north of Burdwan.

18. The railway, if constructed by Renaghat and Nuddea, would be about thirty miles longer than by taking it in the direction of Hooghly and the trunk road to Burdwan, which extra distance, although it would tell largely upon a short line of railway, becomes of less importance when it forms part of a railway of so great an extent as the one under discussion

(namely to the north-west provinces, about 900 miles in length), besides which, it will pass through and accommodate a rich district of country, in addition to affording the same amount of accommodation to the Burdwan district, and, in all probability, would hereafter form a trunk from which branch railways will be made to those parts of India north and north-east of Calcutta.

19. In furtherance of this object, we extended our examination, in November last, to the country north of Kishenugur, through Berhampore and Moorsshedahad to Bhagwangola, with a view to a branch railway from Kishnagur to those places; and although the country is highly favourable for such a project, yet the great mart at Bhagwangola is of so unfixed a character, from the extensive and continued changing of the bed of the Ganges, that, unless its continuation northward and eastward be considered desirable, it would appear that a branch to Bhagwangola simply to accommodate the trade that now passes along the Ganges to Calcutta by the Sunderbunds route, will not be found to answer as a commercial speculation: a permanent point, however, on the banks of the Ganges exists at or near Rajmahal, which might be suitable to receive the great traffic of the river, and be connected with the trunk line, a little northward of Burdwan, and be found advantageous to the general trade of the country, in like manner as the proposed canal of Lieutenant-Colonel Forbes would certainly have done if that important work had been carried into execution. Such a branch railway would in no point be removed very far to the westward of the projected line of the canal in question.

20. Also as regards the comparative cost of the works on the above lines, we consider it would be less, mile for mile, on the Ranaghat line than on either of the others; that is, independent of the great bridge that must cross the Hooghly in either case, the cost of which would be less the higher up the stream it is constructed.

21. The chief objection that appears to the above line is the fact, that it involves the crossing of the Matabhanga river, near Ranaghat, in addition to that of the river Hooghly, which river must be crossed at any rate, in order to bring the railway into Calcutta, unless it be resolved to terminate it at Howra, on the opposite side of the river to Calcutta, which would, at least, be very inconvenient for business, even supposing the country between that and Burdwan was as suitable for the construction of a railway, and offered as much general accommodation to the country as the line further to the northward. Besides, the expense of constructing a bridge over the Hooghly at Calcutta would be greater than a similar crossing sixty miles higher up the stream.

22. With a view to the saving, if possible, of the extra bridge over the Matabhanga, which is a considerable river, we examined another line, that would leave the last described line nearly opposite to Chinsura, and take a more direct course to the river Hooghly, which it would cross near the villages of Collipore, on the east side thereof, and Doomurda on the west, thence onward to Inchura, where it would cross a Nullah, and leaving Culna on the right, would curve to the north and west, by Sacheroy, and crossing the Bauha and Kurreé Nullahs, join the Nuddea line near to the before-named Balkishun, about ten miles northward of Burdwan.

23. The latter route would be about fifteen miles shorter than by the

Nuddea line, but, *pro rata*, it would be more costly in its construction, and miss accommodating a very valuable district of country, which, in all probability, would pay for the extra length of railway. The crossing of the Matabhanga at Ranaghat, therefore, appears to be the chief consideration against the adoption of the more northern line, as compared with the line by Culna.

24. Upon an inspection of the most eligible place for crossing the Hooghly, on the Culna line, near the village of Doomurda, it also appeared that in addition to the simple crossing of the stream there was on the left or east bank a considerable extent of flat country between the wooded elevated land and the water, which is doubtless submerged during the rainy season, and seems to be the ground through which the river has wandered in former times, and left dry from the continued change in its bed. If this be correct, it will be necessary to construct a viaduct of great extent, to carry the railway over this recent alluvial deposit, in addition to the actual bridge over the river; and the uncertain expense in founding and erecting such a work in that situation is so well known, that the fact need only be named to insure a dissent from its adoption.

25. Such was our opinion formed upon the spot; but before a final decision be given upon the subject, it might be advisable for the railway company who may undertake the work to make a detailed survey and section of each line, and submit them for estimate and comparisons, as in a work of such magnitude the utmost saving of expense is desirable. But so impressed are we in respect to the public advantages to be derived from the more circuitous route, that we consider a comparatively small saving should not be allowed to weigh in favour of the Culna line.

26. From Balkishun, as a common point on the two northerly lines, the railway would proceed nearly direct to, and cross the trunk road at about Kagsa, where the southern or Chinsura line, after passing through Burdwan, and nearly following the course of the high road from that city, would be united with them; from thence it would take the left bank of the river Dumoodur, pass through the Raneegung collieries, and onward to where the river Barrakur joins the Dumoodur.

27. The line will next take up the valley of the Barrakur, and follow approximately the course of that river nearly for its whole extent, to the summit of the country at or near the Dhunwa pass, where a very rapid descent occurs from the westernmost range of hills in Bengal to the plains of Behar. Up to near this place the gradients of the line will be very easy, and although steeper gradients will have to be here introduced to overcome this natural barrier, we do not expect, from the levels we have taken, they need be greater than can be worked by assistant power when the trains are heavy; and it is the only place, upon the whole line, where favourable gradients cannot be obtained at a small cost, as regards the earthworks.

28. After entering upon the plains of Behar, the line will proceed nearly direct by Shuhurghollee and Nowrungabad, to the Soane River.

29. The river Soane is a formidable obstacle to the cheap construction of a railway, being two miles and three furlongs in breadth, and the foundation or natural substratum below (at present) an unknown depth of sand. The erection of a viaduct across this great river is, however,

a matter of expense only, there appearing no difficulty in the case that perseverance and ingenuity will not overcome. The most suitable point for crossing the river seems to be about three miles higher up than where the trunk road now crosses it, at the foot of the range of sandstone hills, from which much valuable material for the structure might be obtained, and for this purpose also, granite of excellent quality may be quarried about two miles south-west of Nowrungebad, and about twelve miles south-east from the proposed site of the bridge. Lime also is obtainable at or near the spot.

30. In the construction of this bridge, and of all others of great magnitude, as the crossing of the Hooghly and the Jumna, hereafter to be referred to, we would recommend that they be made of ample width, not only for the railway, but also for a common highway, which may be separated from the railway by a screen of masonry. The additional cost of such extra width, at the time of construction, will be but little in comparison with the cost of a separate structure for the public highway, and compensation might be given to the railway company for the extra outlay, either by government supplying an equivalent portion of the cost, or granting them the right of levying a toll for a given number of years.

31. On the other hand, we would advise that all bridges of great magnitude, erected by government, for the purpose of any public highway in any part of India, should be constructed of ample width to accommodate a railway also, if there should appear any moderate probability that such a work would become desirable for, or likely to be executed in that direction within any reasonable period of time.

32. From the river Soane the railway will skirt the foot of the hills of the town of Saseram, two miles north-west of the proposed bridge, and then in like manner for about seventy-four miles west by north to the town and fortress of Chunar, on the right bank of the river Ganges, leaving the trunk road and the city of Benares considerably to the right. This is done in order to obtain better ground for the construction of the line, and a branch to Raj Ghât, opposite to Benares, seventeen miles in length (leaving the main line nine miles before reaching Chunar) would answer all the purposes of that great city, and the district of country to the northward thereof.

33. The railway will pass between the Sandstone hills on the south side of Chunar, which will all along furnish valuable building materials for the very numerous masonry works along the line.

34. From Chunar to Mirzapore, a distance of eighteen miles in the same direction west by north, the line will still keep along the foot of the hills, although a little circuitous, as it will be desirable to avoid the bad ground in the more direct course.

35. Having now explained our views as to a suitable line for a railway between Calcutta and Mirzapore, we will, before proceeding further, describe the branches we should propose to diverge therefrom to give the most extensive accommodation to the country at large, and to relieve the traffic of the Ganges proceeding to Calcutta from its great drawback during at least eight months of the year, namely, the circuitous route by the Sunderbunds, when the waters of the Bhageruttee are too low to admit of the more direct route from the Ganges to the capital of India.

36. The first branch should be from a point near Burdwan to Rajmehal, along the district of country selected many years ago by Lieutenant-Colonel Forbes for the Rajmehal canal; such a railway will, in future, supersede the necessity for the canal, which, however, would have conferred great benefit on the trade of the country if carried into execution when he first proposed it; the fact that such a canal has been for many years a *desideratum*, proves the same thing in favour of the more modern mode of inter-communication.

37. Besides the accommodation of the trade of the Ganges, it will give accommodation to Purneah, Malda, Dinagepore, Rungpore, and the country in that direction through which it may possibly hereafter be found desirable to extend this refined mode of transit.

38. After all that has been stated from time to time in favour of Lieutenant-Colonel Forbes's important work, nothing more need be added in favour of a branch railway in that direction. This branch would be about 120 miles in length.

39. The second branch we would propose would leave the main line about five miles eastward of Shuhurghotec, and pass northwards through Gaya to Patna and Dinapore, thus accommodating a very important district of country, as well as the military and civil stations above-named; and on the opposite side of the Ganges, the valuable districts of Tirhoot, Sarun, &c. This branch will be about eighty miles in length.

40. Another branch might probably be advantageously made from the main line up the valley of the Soane to the coal-fields westward of Rotasgurh; but we do not lay much stress upon its immediate formation as a branch, until it be ascertained whether or not the main line from Bombay will take that course, as it appeared some time ago probable that such might be the case. Such a branch may be found desirable, if not indispensable, to the interests of the railway company, as they might thereby obtain coal for their own purposes, as well as to supply the public in that and the still higher parts of India.

41. The last branch we should propose for immediate construction on this portion of the great trunk line from Calcutta to the north-west provinces should be, as stated in paragraph 32, from about nine miles before reaching Chunar to Raj Ghât, opposite Benares, a distance of about seventeen miles.

42. We have described our view of the most suitable direction for a line of railway from Calcutta towards the north-west provinces; but it may be argued that the line passes through a comparatively barren portion of the country as compared with the valley of the great river Ganges, which has been suggested by other parties as the most eligible route for a line of railway, and which is stated to have in its favour a greater probability of becoming more lucrative than the line we have recommended.

43. First impressions might be favourable to this view of the question. Such a result might be expected if either line was dependent only for its support upon the agricultural produce and population of the district through which it passes, but upon further consideration it appears to us that the ultimate result will be favourable to the direct line, for by means of its branches to Patna and Rajmehal, it will take all, or nearly all, the trade likely to be transposed from the river to the railway in either case, and give nearly as good accommodation to the

country around, and to the district northward of the Ganges as Tirhoot, Purneah, Dinagepore, &c., through which it will probably hereafter be found advantageous to extend the railway system by starting from the opposite respective termini at Patna and Rajmuhul; and in addition to accommodating the trade of the river and surrounding district, it will bring forward a country now much neglected in consequence of its imperfect communication, a district which contains mineral wealth and possesses great capabilities, as is evident from the proofs of recent improvement, to a great extent contiguous to the line of the trunk-road, within the last few years, a greater part of which, until then, was abandoned to the beasts of the forest. This great benefit will, therefore, be in addition to nearly the same amount of accommodation being given to the whole country as could be given by the river line alone; and, lastly, a direct line between the extreme termini, where attainable, is always most desirable, especially in a political point of view, and in a country circumstanced as India is. Thus much for the traffic considerations of the subject; and it only remains to be stated, that we cannot give a decided opinion upon the engineering question without a personal examination of the river line.

44. *On the extension of the line from Mirzapore to Delhi.*—But little need be said respecting this portion of the proposed works. In length it will be about the same as that of the line we have already described, Mirzapore being about midway between Calcutta and Delhi. The direction of the line will be nearly as follows:—between Mirzapore and Allahabad it will trend a little to the south of a direct line, to secure better ground for a foundation to the works. Upon this portion of the line the railway will cross the river Tounse, and in order to extend it into the doab, the river Jumna must also be crossed at or near to Allahabad; a suitable spot for crossing exists near the present bridge of boats. Thus, the military magazine at Allahabad would be connected by railway with Calcutta, and, by the extension to Agra and Delhi, with the magazines at those places respectively.

45. Leaving Allahabad, the railway would keep on the south-west side of the trunk road to Futtehpore and Cawnpore, thence it might take a direct line to Mynpooree, which would be its proper course if continued direct to Delhi; but if it be finally resolved that the line should pass through Agra, and thence to Delhi, along the right bank of the river Jumna, it would be more desirable that the railway should proceed from Cawnpore by Shekoabad to Agra, as that line would not only be shorter, but would avoid the crossing of one or more nullahs than it would have to do if taken by Mynpooree.

46. Supposing that its route would be through Agra, it would again cross the river Jumna at the latter city, a suitable site for which purpose would be a little northward of the present bridge of boats, and passing the civil lines to the north of the Government offices and Ackbar's tomb at Secundra, take a tolerably direct course through Muthra to Delhi.

47. A suitable place for a station at Agra exists, where the rails, continued from the bridge, would become level with the present surface of the ground, about midway between the river and the civil lines, and, if necessary, such station could be connected with the banks of the river at a much lower level than the railway, by a branch descending to the water's edge.

48. Before, however, determining that the main line should pass through Agra to Delhi, it is a subject for consideration, whether or not it would be more desirable to take the line direct through Allyghur, and cross the river Jumna, at Delhi; for this purpose a suitable place for crossing the river is immediately to the northward of the palace, whence it could be continued along the bank of the river to a station on the vacant ground at the back of the magazine, and, if necessary, can at any time, be prolonged northward, past cantonments, towards Kurnal.

49. The advantages of the direct line to Delhi over that by Agra would be,—1st, the shortening of the distance between Calcutta and the frontier; 2nd, passing through, probably, a richer agricultural district than would be done on the route between Delhi and Agra; and 3rd, in case of invasion from the westward, a possible, although not probable, occurrence, the railway would be protected by the river Jumna. On the other hand, the city of Agra, at present the capital of the north-west provinces, with its magazine, would be less directly connected with the frontier and the magazine at Delhi, if situated at the extremity of a branch, than if placed upon the main line. The country also to the west of the river Jumna, although perhaps not so productive to the agriculturist as that in the doab, yet is admitted to possess a very considerable trade.

50. As respects the two routes, in an engineering point of view, there appears to be no great difference, for although on the direct line there would be the additional cost of crossing the river Hinden (no trifling matter, certainly, unless, as suggested by his Honour the Lieutenant-Governor of the Upper Provinces, the crossing be effected below the junction of the Hinden with the Jumna, if the Jumna itself be as manageable there as at Agra or Delhi). The route, by way of Agra, would be about twenty miles longer, and consequently, from that cause, increase the cost of construction to probably within a trifle of that of the direct route.

51. If Agra be accommodated with a branch line only, and that branch be terminated on the opposite side of the river to the city, it would be highly inconvenient and undesirable; but if a bridge is to be constructed at Agra, at all events, to carry the railway into the city, which it should by all means do, then the consideration would be greatly in favour of taking the main line by the Agra route, for the more perfect accommodation of that great capital of Upper India.

52. Whichever of the two directions for the main line between Cawnpore and Delhi be finally fixed upon by Government as most desirable, the line can, at any future time, be extended to Kurnal and to the frontier, where a terminus might be established on the highest and navigable part of the Sutlej, and thus connect the great rivers, the Indus and the Ganges.

53. The branches to be recommended for construction on this upper portion of the main line from Calcutta to the north-west would be one to Furruckabad, a second to Allyghur, a third to Meerut, and upon the future extension of the line to Kurnal, a branch could be advantageously constructed thence north-eastward towards the hills on which the sanitary stations of Simla and Mussooree are situated, or wherever else it may be found desirable.

54. The first branch, or that to Furruckabad, would leave the main line about sixty miles north westward of Cawnpore, and proceed direct,

the length being about forty-five miles from the line, through Shekoabad to Agra, and thirty-two miles if taken from the direct line to Delhi through Mynpooree.

55. The second branch, or that to Allyghur, would lead direct from Agra, and would be about forty-eight miles long. But if the direct line to Delhi be adopted, this branch would not be required, as the line itself would pass through Allyghur.

56. The third branch would be from Delhi to Meerut, about thirty-six miles long, and which, if the main line takes the right bank of the river, we propose should terminate opposite to the city of Delhi, as it appears to us the traffic would not be sufficient to warrant the expense of constructing a costly bridge over the river Jumna for the purpose.

57. The fourth branch, namely, from Kurnal towards the hills, requires no further remark at the present time than we have already bestowed upon it.

58. If, however, it should ultimately be resolved that the direct line to Delhi through Allyghur be adopted, the branch to Agra would leave such main line near to Sikundra, a distance of about forty miles.

59. We have given, as we consider, the leading facts on both sides of the question necessary for the final choice of the direction for the main line; these appear to us so nicely balanced, that we should refrain from making a positive recommendation upon the subject; but if called upon to state which of the two we would prefer, we should be disposed to recommend the route by Agra.

60. *The general character of the works, &c.*—The heavy works upon the whole line from Calcutta to Delhi will, for the most part, be of masonry, consisting of bridges, to cross the very numerous rivers and nullahs in its course, many of which are of great magnitude, and all very considerable. The earthworks will be light, except at the summit of the country described in paragraph 27, at which place it may be found necessary to undertake works of a heavier kind; but, upon the whole, it is not to be expected that there exist in the world many lines of equal length requiring so small an amount of earthwork to be performed.

61. The great bridges comprise those over the rivers Hooghly and Soane, upon the lower portion of the line, and the crossing of the Jumna at Allahabad and Agra or Delhi, upon the upper portion, and although these structures will be very costly, yet there is nothing in their character that can cause them to be considered as insurmountable difficulties; the chief difficulty will be in their cost.

62. With a view to enable contracting parties to open the whole line at the earliest period with the least possible outlay, it might be advisable to permit of the laying down, in the first instance, of a single line of railway, with all necessary passing places; but this should distinctly apply to the permanent way only, as the earthworks and masonry (but more especially to the masonry works) should be constructed for the reception of a double line; this latter observation regarding the masonry should apply also to the branches, so that at any future time a second line could, thereon, also be applied without difficulty. The earthworks upon the branches might, with safety, refer to a single line only, as they will, in the branches already named, amount altogether to a trifle.

63. It is highly probable that a double line of rails will be absolutely

necessary upon the main trunk line at no distant period, if not required in the first instance, and therefore we would recommend that in consenting to a single line to begin with, it should be understood to imply that such single line is only admissible until the whole length is opened to the public, when a second line should be added forthwith, if the railway company be called upon by the Government to do so.

64. We cannot but view the whole distance from Calcutta to Delhi as one line, for we are of opinion that, as such, it would be better worked and conducted under the management of one company, than if it were divided and in the hands of more numerous bodies; besides which, we consider that it would also be advantageous, as well as fair, that the whole should be granted to one company, if a sufficiently sound party will come forward to undertake it, because they would then have a great length of line for a reasonable average outlay; the lower half, from Calcutta to Mirzapore, costing considerably above that average, and the upper half, from Mirzapore to Delhi, as much below it.

65. We conclude by adding that in addition to the line from Bombay joining the main trunk line, between Allahabad and Calcutta, as before alluded to, it has been suggested to us by his Honour the Lieutenant-Governor of the north-west provinces that a suitable line of country may hereafter be found for the construction of a railway from Agra to Bombay; by these two lines the north-western provinces would be effectually supplied with communication, not only with the seat of the supreme Government at Calcutta, but with the great seaports on the two opposite coasts of the continent of India.

F. W. SIMMS, C.E.

A. H. C. BOILEAU, Captain of Engineers.

J. R. WESTERN, Captain of Engineers.

Camp Sersoul, March 13, 1846.

The report enters so much into detail on the routes between Calcutta and the north-west, that it leaves us nothing to say. We cannot, at the present moment, undertake to criticise the recommendations of the commissioners, as they require a commensurate attention to local details. It seems to us, nevertheless, that the commissioners have acted with prudence generally, and they show a commendable desire to avoid prejudging questions, which can only be settled by long and accurate surveys.

The leaning of this report is evidently in favor of the East Indian Railway Company, and of the original plan of Mr. Macdonald Stephenson. It adopts the Burdwan route to the north-west, and recommends that the whole route from Calcutta to Delhi should be regarded as one line, and given to one company; in other words, should be given to the giant association, the East India Railway Company, which has the ambition to undertake, and the resources to carry it out. The sooner this can be done, in our minds, the better; but we would at the same time grant all the accessory routes, which parties are willing to take up; and in particular we would have every encouragement given to railway communication between Bengal, and Bombay, and Madras.

The railway system in India must be looked upon as a *fait décidé*,

if not a *fait accompli*, and the responsibility lies upon the East India directors and the Board of Control, for setting the machinery in action. They have already caused sufficient delay; they have already lost sufficient time; their fears and misgivings have received no encouragement; and instead of going on the Leadenhall-street crawl, the old tortoise or crab pace, they must be up and stirring. The Company will not, we presume, have the rashness to undertake railways themselves, for which they have neither funds nor means; and they can, therefore, do nothing better, and, in fact, nothing else, but at once give the necessary powers to the respective joint-stock companies to go on with the works.

The money-market in London, we presume, it is now known, cannot be trifled with; it must be taken at the top of tide; a month's delay, and the stream which ran buoyantly in favor, sets with greater strength the other way, and so far from bearing an undertaking on, will rather pull it down. Notwithstanding the general depression, there is now a feeling favourable towards East Indian railways, and it should be made the most of, without the slightest halt or stop. What it will be next year, or the year after, no one can tell; but there is this very great risk, that the postponement of railways in India, for one year, may be their postponement for seven.

As we have already observed, the report of the railway commissioners is a full confirmation of that of Mr. Macdonald Stephenson, and a complete justification of the confidence which has been reposed in him by our leading capitalists. We have so often given our tribute to Mr. Stephenson's zeal and enlightened enterprise, that though it is a matter of duty not to forget them, we are almost fearful of constantly reiterating his merits.

A line which shall communicate with the environs of Calcutta, which shall bring them into communication with the coal mines of Burdwan, and thence reach the Ganges at Rajmahal, Patna, Mirzapoor, and Delhi, is an undertaking at once well conceived and comprehensive, and, to our minds, well calculated to be the keystone to railway enterprise in India. We believe it to be a useful and a paying line, and its construction will, we believe, give a very great impulse to the introduction of the railway system into India, the grand means of consolidating our empire, increasing our wealth, and providing for the comfort and health of our Indian fellow-citizens. We hope no exertion will now be spared by the directors of the East Indian Railway Company in obtaining a grant from the East India Company; for the vital success of the enterprise depends on its timely prosecution.

The report, it will be seen, in its local details, is limited to the consideration of the communication with the north-west; but its general recommendations must be looked upon as equally interesting to every railway scheme in India, and as giving them a preliminary sanction. The only line reported on is in the presidency of Bengal, and the lines in Bombay and Madras are not included in the present investigation. This, however, is no reason for delaying their prosecution, and we presume that all parties will now apply to the Indian and home authorities for the necessary sanction.

The practicability of railways in India being proved by the commissioners, the propriety of each undertaking will depend on its pro-

ductiveness, and we believe that India contains within it such resources of traffic, that there will be a field too large for the grasp of enterprise, rather than too small. We must, too, urge this one point as necessary to be borne in mind, and as proved by the experience of Europe and America—that the productiveness of railway enterprise must be very much limited in its infancy; and until such a length of line is created, and such an extension of system is effected, as duly to develop the whole resources of a country, no large dividend can be expected. This is the grand reason for an extended railway system in India, in opposition to its limited prosecution.

CONTRIBUTIONS TO RAILWAY STATISTICS.

BY HYDE CLARKE, Esq.

NO. 20.—PARCELS TRAFFIC.

The conveyance of parcels is justly looked upon as a lucrative branch of revenue; while its working has led to much greater accommodation on the part of the public.

The returns for the conveyance of parcels, and for passengers' extra luggage as here given, are not complete, and are not quite accurate, as the returns in most cases give only the amount for the half-year ending 30th June, 1845, so that the annual amount is mostly a calculated sum.

Amount received for parcels, and passengers, extra luggage, in the year ending 30th June, 1845:—

Company.	£
Arbroath and Forfar - - -	250
Chester and Birkenhead - - -	700
Dublin and Drogheda - - -	1,800
Dublin and Kingstown - - -	471
Dundee and Arbroath - - -	346
Dundee and Newtyle - - -	36
Durham and Sunderland - - -	220
Eastern Counties, Cambridge - - -	3,000
" " Colchester - - -	6,984
Glasgow and Greenock - - -	71
Grand Junction - - -	20,000
Great North of England - - -	2,800
Great Western - - -	30,000
Hartlepool - - -	172
Hull and Selby - - -	2,800
Hayle - - -	29
Lancaster and Preston - - -	1,200
Llanelly and Llandilo - - -	338
London and Birmingham - - -	56,000
London and South Eastern - - -	6,400
London and Greenwich - - -	11
London and Croydon - - -	280
Manchester and Bolton - - -	860

Company.	£
Manchester and Leeds	4,074
Maryport and Carlisle	158
Midland	21,000
Monkland and Kirkintilloch	28
Newcastle and Carlisle	1,266
Newcastle and North Shields	1,346
North Union	2,800
Preston and Wyre	340
St. Helen's and Runcorn	70
Sheffield and Manchester	700
Stockton and Darlington	360
	<hr/>
	£156,910
Add for omissions	30,000
	<hr/>
Total	£186,000

The number of parcels carried is distinguished in some of the lines:—

Company.	Number of Parcels.	£
Eastern Counties, Colchester	184,545	6,984
Liverpool	15,104	172
Lancaster and Preston	32,000	1,200
Sheffield and Llandilo	5,597	338
Manchester and Leeds	88,571	4,074
Newcastle and Carlisle	36,385	1,266
	<hr/>	<hr/>
Total	362,202	£14,034

It thus appears that the average rate for the conveyance of parcels is 4d., or a little more than 9½d. per parcel, or rather more than 25 pence to the pound. Taking this as the average, it would give us a total of 4,600,000 parcels conveyed in the year 1844—5. Of this number, above one million and a half of parcels are conveyed to and from the metropolis.

The probable number of parcels to and from the great towns is as follows:—

Towns.	No. of Parcels.
London	1,500,000
Manchester	250,000
Liverpool	160,000
Bristol	100,000
Leeds	100,000
Newcastle-	75,000
Hull	50,000
Preston	50,000
Sheffield	50,000
York	25,000
Dublin	25,000
Cambridge	25,000
Dover	25,000
Lancaster	20,000
Carlisle	20,000

The chief parcels traffic is on the following lines:—

Company.	No. of Parcels.
London and Birmingham - - - -	56,000
Grand Junction - - - -	20,000
<hr/>	
Ditto Amalgamated - - - -	76,000
Great Western - - - -	30,000
Midland - - - -	21,000
Eastern Counties - - - -	10,000
South Eastern - - - -	6,400
Manchester and Leeds - - - -	4,074

No. 21.—CARRIAGE TRAFFIC.

The number of private carriages conveyed by railway is larger than is supposed.

The following gives the number of carriages conveyed in the year ending 30th June, 1845, the amount received, and the rate per mile charged:—

Company.	Number.	£	Rate.
Bristol and Birmingham - - - -	1655	1933	7·85
Chester and Birkenhead - - - -	208	75	...
Dublin and Drogheda - - - -	600	500	...
Dundee and Arbroath - - - -	46	23	...
Eastern Counties, Cambridge - - - -	3211	1405	3·60
" " Colchester - - - -	1171	1713	7·76
Glasgow and Greenock - - - -	....	49	...
Glasgow and Ayr - - - -	249	....	...
Grand Junction - - - -	2181	3573	...
Great North of England - - - -	1120	1397	6·00
Great Western - - - -	6641	10792	6·01
Hull and Selby - - - -	129	109	6·32
Lancaster and Preston - - - -	488	410	10·50
Liverpool and Manchester - - - -	652	495	...
London and Birmingham - - - -	5759	11524	4·68
London and South Western - - - -	3511	5257	6·60
London and South Eastern - - - -	2763	5042	5·65
London and Brighton - - - -	3557	2612	6·25
Manchester and Bolton - - - -	90	20	5·40
Manchester and Leeds - - - -	458	572	...
Stockton and Darlington - - - -	118	30	...
Manchester and Carlisle - - - -	17	7	5·37
Midland - - - -	4063	6869	6·00
Newcastle and Carlisle - - - -	522	454	4·75
Newcastle and Darlington - - - -	818	...	...
North Union - - - -	615	471	...
Preston and Wyre - - - -	117	79	10·00
Ulster - - - -	144	59	...
Whitby and Pickering - - - -	41	41	...
Yarmouth and Norwich - - - -	98	46	...
York and North Midland - - - -	1427	1089	8·00
<hr/>			
Total - - - -	-	£56,646	
Add for omissions - - - -	42,469		
<hr/>			
Gross total - - - -	50,000	£60,000	

The general rate for the conveyance of carriages is about 6d. per mile.

The chief carriage traffic belongs to the following Companies:—

	Number.	£
London and Birmingham	5759	11524
Grand Junction	2181	3573
	<hr/>	<hr/>
Great Western	7940	15097
Midland	6641	10792
South Western	4063	6869
South Eastern	3511	5257
Eastern Counties	2763	5042
Brighton	4382	3118
	3557	2612

No. 22.—DISTRIBUTION OF REVENUE.

The total revenue of the Railway Companies for the year ending 30th June, 1845, was, according to the returns published by the Board of Trade,

Total	-	-	-	£	6,209,714
Whereof passengers	-	-	-	£	3,976,341
Goods, &c.	-	-	-	£	2,233,373

The two millions and a quarter for goods, cattle, parcels, mails, &c., may be thus distributed:—

Goods—					
Goods	-	-	-	£	842,000
Timber	-	-	-	£	7,000
Total goods	-	-	-	£	849,000

MINERALS—

Coal and coke	-	-	-	£	600,000
Iron and ironstone	-	-	-	£	35,000
Copper and tin	-	-	-	£	4,000
Stone	-	-	-	£	10,000
Lime and limestone	-	-	-	£	33,000
Sand	-	-	-	£	10,000
Bricks	-	-	-	£	2,000
Total minerals	-	-	-	£	694,000

AGRICULTURAL PRODUCE AND PROVISIONS—

Cattle, sheep, and pigs	-	-	-	£	150,000
Grain and flour	-	-	-	£	75,000
Meat, fruit and vegetables	-	-	-	£	50,000
Fish	-	-	-	£	8,000
Manure	-	-	-	£	500
Total provisions, &c.	-	-	-	£	291,000

MISCELLANEOUS—

	£
Parcels - - -	186,000
Mails - - -	100,000
Carriages - - -	60,000
Horses - - -	60,000

Total miscellaneous - £406,000

The distribution of the tonnage is as follows:—

Goods—	Tons.	Tons.
Goods - - -	3,283,000	
Timber - - -	40,000	

Total goods - - -		3,323,000

MINERALS—

Coal and coke - - -	7,000,000
Iron and ironstone - - -	400,000
Copper and tin - - -	25,000
Stone - - -	200,000
Lime and limestone - - -	400,000
Sand - - -	100,000
Bricks - - -	20,000

Total minerals - 8,145,000

AGRICULTURAL PRODUCE AND PROVISIONS—

Cattle, sheep, and pigs - - -	150,000
Grain and flour - - -	300,000
Meat, fruit, and vegetables - - -	200,000
Fish - - -	13,000
Manure - - -	20,000

Total provisions, &c. - 683,000

MISCELLANEOUS—

Parcels - - -	-
Mails - - -	-
Carriages - - -	-
Horses - - -	-

Total miscellaneous—no returns -----
Total goods traffic - 12,000,000

No. 23.—STATE OF THE RETURNS.

The manner in which the statistical returns are got up is equally discreditable to the majority of the companies and the Board of Trade, but the chief fault rests with the latter department, which does not require the necessary information, and does not see that what it does require is supplied, while there is no attempt at the digestion or analysis of the returns. With what individual the responsibility lies is not clear; but surely, if we are to have statistical returns, we should have such as will be of use for practical purposes. A blue book is, it is true,

produced, which contains scattered and fragmentary information; but if we are to have statistical returns, a statistical department, and a railway department, it is to be expected that we should have something which is available. As it is, the railway manager who wants information on any particular point has to wade through nearly two hundred pages of tabular matter, when a week's labour, by a competent party, and the space of half a dozen pages, would be ample for the analysis and classification of the returns.

Railway statistics have been shown in the introduction to these articles to be of particular value in management, and the opportunity of promoting this object is one which should not be lost sight of by the scientific members of the statistical department of the Board of Trade.

The only improvements in the last returns are the specifications of the receipts for parcels and mails. Many of the companies have given a distinct return of coal traffic, but this seems to be optional.

The present returns, among other things, do not provide for the discrimination of the quantity and charge of each class of goods traffic, unless the companies choose to give the information spontaneously; and it is to the zeal of particular secretaries, and not to the energy of the Board of Trade, that the statistician owes what extra information he obtains.

An inspection of the present returns suggests the following, among other improvements and amendments in the returns :—

An inspection of the returns, and the filling in of additions in places where they are useful, as in the tonnage of goods traffic.

Number of soldiers conveyed.

Number of parcels conveyed, and rates of charge.

Number of dogs conveyed.

Number of calves conveyed.

Number of lambs conveyed.

Quantity of coals and coke carried, amount received, and rate of charge.

Quantity of lime and chalk, ditto, ditto.

Quantity of iron and iron-stone, ditto, ditto.

Quantity of stone and slate, ditto, ditto.

Quantity of sand, ditto, ditto.

Quantity of salt, ditto, ditto.

Quantity of glass, ditto, ditto.

Quantity of bricks and tiles, ditto, ditto.

Quantity of timber, ditto, ditto.

Quantity of fruit and vegetables, ditto, ditto.

Quantity of meat and poultry, ditto, ditto.

Quantity of fish, ditto, ditto.

Quantity of grain and flour, ditto, ditto.

Quantity of potatoes, ditto, ditto.

Quantity of wool, ditto, ditto.

Quantity of cotton, ditto, ditto.

Quantity of hops, ditto, ditto.

Quantity of manure, ditto, ditto.

As many of these articles are not carried on the same line, and as the accounts and returns of well-conducted companies already give the per-

particulars required, no objection could be made on the ground of labour and trouble, while a great deal of light would be thrown on the working of the goods traffic.

As to the traffic in parcels, fish, provisions, lime, and many other articles, it may be said that at present nothing certain is known.

On examining the individual returns of companies, it happens from some unexplained circumstances, that those of the Scotch companies are the worst. The returns of the Edinburgh and Glasgow are disgraceful, and their accounts must be in the same condition. They are kept on the *non mi ricordo* principle, with the note "No books kept" frequently repeated. The Ballochney accounts are bad; so are those of the Wishaw and Coltness, and Monkland and Kirkintilloch Railways. Some of the Scotch accounts are, however, very well kept.

Among the best and most useful returns are those of the York and North Midland, Midland Great North of England, Eastern Counties, Colchester line, Great Western, Leicester and Swannington, Maryport and Carlisle, Preston and Wyre, Taff Vale, and Whitby and Pickering Railways.

ABILITY OF THE PUBLIC TO MAKE THE PROJECTED RAILWAYS.

Ability of the Public to make the Projected Railways. By J. T. HACKETT. (*Herapath's Journal*, Nos. 377 and 378, pages 909 and 921.)

THE alarm which has been sedulously raised by the panic-mongers, as to the national ability to carry into effect the railways now incorporated, has naturally attracted the attention of eminent railway statista. Mr. Hackett has laboured a good deal in this branch of statistics for a great many years; and some of the best and most valuable analyses of railway traffic have, from time to time, appeared in the old and new series of the *Railway Magazine*, now *Herapath's Journal*, with the management of which he is connected. A labourer in this field is less known to the public than to railway men, because his productions assume a technical form, and appear in a technical journal, while some amateur, who knows nothing of railways, and writes a paper for the British Association or Statistical Society, simply abridging the Board of Trade returns, is popularly regarded as an authority. On the other hand, the labours of practical men of science, like Mr. Hackett, if less applauded, have much more important results, and have greatly contributed to the progress of the railway system.

The papers now before us include the continuation of a small table originally designed by Mr. Hackett, and which forcibly illustrates an important railway axiom. Mr. Herapath was the first to point out, statistically, that the traffic on any given line depends chiefly for its progress on the extension of other lines in connection with it, and his establishment of this point in the old *Railway Magazine* had a great influence in softening down the disappointment which was felt in the infancy of the railway system, at the inconsiderable results consequent on partial openings. Thus the traffic on the first sections of the London and Birmingham, the Great Western, and the South Western,

was so small, that it presented very discouraging results. When, however, Mr. Herapath had shown that the increase of traffic on further openings was not in arithmetical but in geometrical progression, an instrument was given to railway chairmen wherewith they could keep up the confidence of the shareholders, and urge forward the prosecution of the works. It was the establishment of these facts, also, which laid the basis of Mr. Hudson's policy, when, to carry out the Newcastle and Darlington line, he obtained the guarantee of all the companies connected with it, on the ground of the accession of through traffic which would ensue. This principle is one now generally admitted, and it is the one acted upon in the apportionment of capital for the South Devon and many other lines. In such cases it is interesting to watch the progress, from the rude discovery of the principle by the statician, when he has to withstand the contempt of some, the doubts of others, and the objections of many, and to garner up each solitary corroborative fact as it arises. Then we have the chairman or secretary appealing to the newly-established principle for his guidance, (though very rarely acknowledging his authority) making a practical trial, and glorying in the success of its accomplishment.

Mr. Hackett some years ago showed that the extension of the railway system was accompanied with a progressive increase of traffic per mile and per cent., and his successive annual reports on this subject, extensively quoted in the papers, have done more than anything else to explode an error which was formerly prevalent to some extent—that the railway system was all very well as far as it had gone, but the prime lines of traffic had been picked and culled, and as the refuse only was left, extension was fruitless. It used to be said, the average earnings are only some four and a quarter or four and a half per cent., all the main lines are already open, and if more acts are obtained, the average per centage must be less. Mr. Hackett has disproved this, and given the best argument for extension. He now shows, that whereas in 1842 on 1,520 miles open the average profit per cent. on the capital expended was only 4·97 per cent., it has made a progress in 1843 to 5·03 per cent., in 1844 to 5·27 per cent., to 6·01 per cent. in 1845 on 2,043 miles open. His estimate from the data already obtained for the year 1846, and in which we fully concur, is 6·5 per cent. (six and a half per cent.)

STATISTICS OF RAILWAY TRAFFIC,
For the First Six Months of the Present Year, compared with the corresponding periods of the Four preceding Years.

	Half-year.	Total for the Year.	Increase per Annum.	Miles open.	Profit per cent. on Capital expended.
1842	2,005,990	4,341,781	...	1,520	4 97
1843	2,194,618	4,827,665	485,874	1,586	5·03
1844	2,481,538	5,584,982	757,327	1,805	5·27
1845	2,962,512	6,649,224	1,064,242	2,043	6·01
1846	3,461,941	*8,000,000	*1,350,776	*2,400	*6·50

At the present moment this is not such an important matter, but when

* Probably.

Mr. Hackett first directed attention to the subject, the policy of extension was denied by nearly every railway chairman; in particular, by Mr. Glyn, Mr. Chaplin, and Mr. Baxendale. Mr. Hudson made no professions, but he actively exerted himself for extension. The effect of the prevalent error was, that the best time for extension was lost, and several of the old companies have been endangered from having left vantage ground to their antagonists. Now, we suppose, there is no chairman who would stand up and object to any legitimate extension.

In reconsidering the progress of railway statistics and of the railway press, we must again allude to the small share of acknowledgment which has fallen to the portion of the latter, though it is very certain that no grand improvement has been effected in railway administration in which the press has not taken the earliest and most effective part. It may suit chairmen and secretaries occasionally to assert that they do not read the railway papers, or a particular paper; but a confession of the kind is not calculated to give a very favourable opinion of the individual, for he acknowledges a neglect of the earliest and only records of administrative improvement; and to avoid the criticisms, or it may be, the scandals, of a particular paper, he pleads guilty to ignorance and a want of zeal. It matters not that railway papers, like other papers, like the *Times* itself, give way to calumny and misrepresentation; this dulls their usefulness, but does not annihilate it. It is an acknowledgment, too, opposed to the practice of their colleagues, who are as actively connected with the railway press as cabinet ministers are with the daily organs, though, in either case, the intervention of a treasury secretary may break the direct intercourse.

The reason why we have applied ourselves to the paper of Mr. Hackett now before us, is, we say it with deference, not on account of its merits, but its fallacies. While the design is good, and the general arguments true, it unfortunately, from loose economical views, leaves too great a handle for opponents, and on a subject which is now of such great importance to capitalists of all classes it is calculated to strengthen the cause of unscrupulous adversaries. To prove the practicability of carrying out the railway works now authorised is a laudable aim; for on their prosecution depends not merely interests of capital, but those of a large body of day labourers, who will otherwise want employment.

There are two inquiries quite distinct—one to prove what is called the amount of capital available for railways; the other, whether there is sufficient capital to construct the railways now approved. The first inquiry, which is a favourite one in the panic school, is perfectly futile; for no one knows, or ever did know, and no one could ever determine, the amount of available capital. Mr. Hackett has chosen the latter branch of inquiry, and has sought to prove, by experience and facts, that the construction of the authorised railways is perfectly within compass. Such an attempt, however well directed, can only lead to an approximation of truth, but it may give us sufficient authority to justify the first step being taken, and it is the nature of economical operations to constitute in their course their own machinery of progress, so that it is impossible to say where the bounds can be set.

A great base for Mr. Hackett's argument is the history of the

national debt, the operations in connection with which he treats as naked facts. He says :—

“ With respect to the ability of the English people to make the railways, it may be mentioned, that during a period of twenty-two years—namely, from 1793 to 1815, the English capitalists lent the government 601½ millions by instalments, averaging 27 millions annually, to carry on the French war; and during that time, the English public paid through the government to the capitalists 262 millions for the use of that loan. Since 1815 they have paid in addition 684 millions. So that for this transaction alone, the English people have, during a period of fifty-three years, paid 946 millions for the use of 601½ millions, which were lent by instalments to the government as described. Taking the capital thus supplied by the capitalists and the interest paid by the people together, then, these sums amount to 1,547½ millions, or an average of 30 millions per annum for the past fifty-two years. It is needless to say, that these vast sums have not been expended on railways, nor scarcely on any other useful or profitable work at present in existence. This identical debt still remains unpaid, notwithstanding all the money that has been paid for the use of it, and 22½ millions is now paying and will have to be paid annually and for ever by the industrious people for the use of the said 601½ millions.”

Now a greater fallacy than this statement about the 601½ millions cannot be put forward as a measure of money value. It might just as well be called 601½ millions of talents, or drachmas, or sesterces, or or skeattas, or livres, tournois, or any denomination of uncertain and fluctuating value. Had the prices of wheat only been consulted between 1793 and 1815, they would have shown how different was the value of money in that period from what it is now, and 601½ millions raised at ruinous sacrifice and in a depreciated currency is but a poor measure of national ability. Mr. Hackett knows the value of a pound sterling better than those might believe who read the above, and it is therefore to be regretted that he should have made use of such an argument. He might just as well have quoted the discounts on South Eastern or Eastern Counties shares, as capital actually expended.

If the national debt were wiped off with a sponge to-morrow, it is very questionable how much of the produce of the country represented by 28 millions a year would be available for re-distribution for purposes of active industry; for so much of the dividends is received by small holders, who are members of the working classes, and who, in a re-distribution, would only receive it *alio nomine*. The national debt is so artificial in its operation on capital, that nothing can be more fallacious than the attempt to deduce from it any fixed money results. For this reason we deprecate such assertions as the following :—

“ If, since the memorable year 1815, the 22½ millions paid for the interest of the public debt had been expended annually on railways, the people of England would have accumulated real property to the amount of 661½ millions, reckoned without interest, which would be most probably paying them an annual dividend of 30 millions, instead of having to pay out of their food and hard labour the 22½ millions annually, without any hope of getting rid of the original debt, and very little chance of reducing the said annual charge. Not only would the enormous sums

collected in this way have made railways for every part of the United Kingdom, but that valuable mode of communication would have been extended, had it been known, all over Europe, and eventually to every part of the civilised world, producing immense resources for trade, and an enormous surplus revenue from actual earnings, instead of being a heart-rending drawback, as the funded system is, on the food of every poor man, woman, and child in this country, at all times, and at all hours."

The real working capital of the country, its population, its supply of food, its machinery of all kinds, have very little connection with the artificial distribution of the supply of food among the individuals composing the population. Sponge off the national debt, and not a blade more corn would be available, nor a day's labour of man or machine. What we have to consider is how far we can apply the means specified to the carrying out of a new branch of enterprise.

The same looseness of reasoning and expression which has affected Mr. Hackett, equally affects those who talk of the surplus capital of the nation being 30 millions a year, and of restricting the expenditure on the railway system to 30 millions a year. A pound sterling is a pound sterling with some people, but railway directors know that the fluctuations in the money price of works is very great. What in a time of depression costs 30 millions, in a time of ease would cost 35 millions; and what in a time of ease would cost 30 millions, could be done for 25 millions during a panic. Railway directors have practical experience on these points. Works estimated during a panic, and executed during a flush in the money-market, are always accompanied by an excess of expenditure over estimate, while the converse will often take place, and a panic which injures others will enable a board of directors to make a considerable saving on the estimate.

Strict bounds and definitions cannot be attained in the operations of capital connected with railway construction, for the theorist, and sometimes the practical man, is exposed to numerous rebuffs from the action of causes for which he has not provided. Thus, during a panic, though labour, materials, and the profits of capital may be lower, yet, from the want of adequate funds, works may be conducted on such a narrow scale, and in a manner *per force* so wasteful, as to be most expensive and extravagant.

There is, indeed, no means of getting at the money standard for a yearly expenditure on railways. In a period of panic, although labour, materials, and the profits of capital are low, yet the machinery of the money-market is so disorganised, that it is troublesome to carry out large undertakings. In a period of prosperity, as it is called, the means are the more readily provided, although much higher rates of reward are paid. It will be seen that these higher rates are fictitious, and that whether the rate of reward be high or low, the real measure is the amount of labour bestowed. Everything tends to shake the boldness of those who would set fanciful bounds to the enterprise of the commonwealth, which are, in truth, uncalled for, as there are natural preventive checks which are much more powerful in counteracting undue speculation.

We must now turn ourselves to another part of Mr. Hackett's

observations, which have awakened the attention of a great many parties. We allude to his attacks on the monied interests, and his advocacy of the joint-stock system, as a means of giving the lower classes a greater share in the wealth of the country.

“On the funded system a capitalist gains nothing by the prosperity of the people; his dividend is not increased by it, neither is it diminished by their adversity; therefore he cares not whether the people are employed or not employed, starved or fed, so long as he quietly and without trouble receives regularly the stipulated interest for his money, which the English government never yet failed to procure for him. He need not care with what difficulty it is obtained. In fact, the poorer the great mass of the people are from want of sufficient employment and wages, the richer the fundholder becomes in proportion, because his money becomes of greater value. He can frequently purchase nearly twice as much with his regular dividend in a time of adversity, as he can in a time of public prosperity, on the principle that ‘half a loaf is better than no bread.’

“Under such circumstances, it is lamentable to hear those who are really the advocates of the great monied interests, pretending to defend the cause of the poor against their presumed oppressors, and yet expressing fears that our millions of idle and half-starved labourers and work-people may chance to be fully employed for a few years hence on the railways. They are also the foremost in the ranks of those who openly declare that this country, with all its immense riches, cannot afford to lay out 20 or 30 millions annually in the construction of real property in the United Kingdom, which will undoubtedly repay the subscribers an interest of 5 or 6 per cent. Not so with the construction of national debts, the people in that case having continually to pay and not to receive a revenue.

“It is not by any means surprising that the great monied interests and their friends, from their former bad habits, should be so averse to any system which would have a tendency to diffuse capital, and usefully employ it for the benefit of the many. Confining the money principally to the hands of the few, and keeping up, at ‘well regulated periods,’ the harassing system of alternate fluctuation in the money-market, evil reports, and good reports, great prosperity, and great adversity, which has been the plan successfully adopted by them, to amass colossal fortunes for themselves at the public expense. The sordid money dealer cares not for the sufferings of the people, provided that he can only be enriched by acting on either their hopes or their fears. Hence the great opposition to the new railways, which are as likely to prove a steady and safe investment for the employment of industrious capital as many of the old railways which are now in operation. Under the ‘good old funded system,’ the rich are sure to become richer, while the comparatively poor are as certain to become poorer. But, under the railway system of employment and investment that cannot be the case to any great extent, because, from the very constitution of railways, and the wonderful facilities they afford to the people to carry on trade, it thus becomes the interest of the capitalist to encourage trade and business. For the more trade there is in the country, and the better provided the people are with the necessaries of life, the more traffic there will be on the railways, and of course the higher will also be the

dividends to the shareholders. By this great means the interests of the railway capitalist and those of the public cannot fail to become identical.

“In securing this valuable desideratum we shall insure the first step to an enlightened, just, and equitable policy. Its successful operation on the resources of the people would tend to convince the landowners, as well as the capitalists, that the great imaginary abyss which lies between them and the industrious classes in this country, has always been a very serious injury to both parties.”

Here again we shall be called upon to point out how much fallacy is mixed up with a very great degree of truth. Assuredly it is earnestly to be desired that the lower classes should take part in the operations of capital, and partake in the wealth of the country; and every measure is to be welcomed which will further these ends. From this, however, to an attack on capitalists, the gulph is wide, although Mr. Hackett has so boldly leaped it. Undoubtedly the conduct of the *Times* and the panicmongers has given some countenance to the idea that their nefarious endeavours were connected with the secret plans of interested parties; but still an unbiassed judge would pause before he admitted the charge, or applied it extensively to a class who cannot have combined in any plot which, however well laid, could never be imparted to so many. All this agitation on the one side and the other tends to keep up a jealousy among the working classes, that they are being victimised by the monied men—a prejudice which is a great source of injury to the former, as it blinds them to the real causes of their sufferings, and the means of remedy.

That the rich are becoming richer, and the poor becoming poorer, that the wealth of the country is being heaped within a few hands, is a common prejudice, as old, at least, as the time of Solomon, and not the less a falsehood. Instead of its being true that the wealth of the country is in fewer hands, the truth is, that the wealth of the country is in more hands, and the march of events is in favour of a wider distribution. What makes the capitalist is not his money, but his intelligence; in most leading cases, he began life with little or no money, and though his money is now an instrument to him for doing great things, yet his intelligence is his real strength. His just conduct of his own operations, his proper appreciation of the proceedings of others, his economy in applying his own means, his power of commanding and combining the means of others, and his skill in directing his operations to a right end—all these give the capitalist his power. What the other classes want is not money, but the essential qualities enumerated above. Look at the money hoarded by these latter, the means they squander in self-indulgence or careless waste; look at the sums placed in savings' banks, and so abstracted from the money operations of the working classes; last of all, look at the loan societies, benefit lodges, sick clubs, co-operative stores, harmony halls, and building companies, where the funds are, almost without exception, embezzled and absorbed by the managers, and the objects of foundation utterly frustrated in a greater or less number of years.

It is a very fine thing for overstraining philanthropists to preach the benefits of co-operation to the working classes, but it is perfectly futile until those qualities of mind can be infused which will enable men to

act together. Among these are intelligence, honesty, good faith, thrift, industry, sobriety, forbearance, modesty, fairness, and many other virtues, which are generally thought to have nothing to do with the gain of money, but without which no fellowship of men can be brought together for any common undertaking. What could Mr. Hudson do if he did not possess the confidence of others, and if they did not put their faith in him? To merit this trust he must have earned it, and to keep it he must give no handle for suspicion to lay hold of.

What is the picture of a joint-stock undertaking among what we have here, without meaning offence, termed the lower or working classes? Let us suppose a co-operative store or a loan club. To form it, there are half a dozen self-trained, overweening mechanics, two or three trade orators, who prefer mouthing to work, and live upon their fellows, a discarded member of some profession, a few small tradesmen intent each on his separate job, a few who join with the wild, indistinct aim of opposing old institutions and starting new ones, and without any definite view of carrying out the specific object of the association. No one has ever had experience of the business to be performed, unless it be some one who has been disgraced elsewhere, and in the very cradling of the institution the whole Babel of ill-conditioned counsellors is let loose. One wishes all proceedings to be conducted by ballot, as a fundamental principle of society; another, that all votes shall be recorded and openly blazoned forth; a third that all measures of administration and discipline shall be under the purview of every member; a fourth insists that a rotary system of management shall be established, and a fifth that nothing shall be done by the committee, not even a farthing candle bought, without the confirmation of their constituents. The society is never properly organised, and nothing properly conducted; in a short time the vice-president quarrels with the grand secretary, the vice-secretary with the general treasurer; and while the committee are quarreling about the minutes, and keeping up a wordy correspondence, or when they have split into two separate sections, each claiming to be the rightful administrators, the president, the vice-president, the general treasurer, and the whole host of functionaries, paid and unpaid, plunder the common funds, and in the end, the society breaks up with disgrace, and with a general blackguarding of all parties concerned. This, unfortunately, is the general picture of all such institutions, not the exception, but the rule; and it is a lamentable fact, that no old established joint-stock institution of the working classes exists, and never can, until they can learn to keep faith with each other.

To remedy existing evils is the first thing to be done for the relief of the working classes, and certainly not by raising a cry of monopoly against monied men, when all the monopoly they have is the monopoly of intelligence. The 30 millions in the savings' banks would do more than any Rothschild in the country; but the working classes have not even a well-conducted burial society.

It is perfectly true that capitalists make their market of the follies of others, and of the fluctuations which take place in prices; but it is not true that the capitalist has any interest in depreciating the railway system, for this simple reason, that whether it be in railways, in consols, in lottery tickets, or in foreign funds, he has always been able to make his market, and always can do so. It is true that some of the great

capitalists have a preference in railway matters for the French concession system, which would give them exclusive advantages; but this view is not upheld by monied men generally. Mr. Hackett's painting of the monied interests is in the deep-black style of popular prejudice, with a touch at the horns, tail, and hoofs. This does not make it true; and it is not true, nor does it at all portray the good which results to the country from the exertions of the maligned pseudo-monopolists.

Mr. Hackett's aim to obtain a share of the wealth of the country for all classes is a right one, and we have always upheld the joint-stock system for railways, on the ground that it offered the surest means of diffusing a knowledge of joint-stock operations, and enabling all parties to take part in their profitable results. We have regretted gambling, but we have never regretted, as some have done, that tradesmen and mechanics held railway shares. We always rejoiced, because we thought it a proof of growing intelligence. Provided a tradesman does not trench on his legitimate business, we see no harm in his holding railway shares, and paying up upon them—we believe he trespasses thereby on no gentlemanly privilege—we do not think he invades the sanctuary of fashionable divinity. We have understood that he may hold consols, and we cannot see why he should not lodge his savings in Birmingham stock. There is cant upon such subjects as upon all others, but the sooner it is done away with the better. We are sure, as Mr. Hackett says, those are no true patriots who would prevent the bulk of the people from investing in railway works, and we agree with him that a due administration of the railway system will be a most effectual means of giving all classes a share in the increasing wealth of the country.

From such motives, too, we have always deprecated the French system of taking railways into the hands of government. It may be perfectly true that at the end of a given number of years, all the French railways will fall into the hands of their government, and give them the means of paying off their national debt; but we are firmly convinced that on the broad principle England is much better off; for, by the more liberal development of the railway system on a joint-stock basis, the resources of the country are so much more extended as to enable the government, if it wished to pay off the national debt, to raise the money with more ease by taxation in due time than by applying the revenues of railways, cramped by government meddling and the insufficient remuneration of capitalists.

We are always having it rung in our ears that if railways are carried on upon too great a scale, labour will be diverted from other employments. Let it be so. What then? There is no harm in that. Even if labour were diverted to a great extent from our grand staple, the cotton manufacture, we are not prepared to admit that the country would be worse off. The worst that could happen in such a case would be, that for a few years, during the inordinate progress of railways, our population would run short of shirts and shifts. If the woollen manufacture be the theme, there would be a scant of coats and petticoats; or if the earthenware manufacture, there must be fewer teapots and pipkins. It will be a long stretch before the superabundance of labour can be diverted from husbandry, and all the poor wretches enticed away from seven shillings a week in Dorsetshire, and a grist of chickweed. Instead of the aforesaid shirts, shifts, petticoats, jugs, and mugs, the

commonwealth would be enriched by the possession of a machinery of production, the good of which would be felt for hundreds of years; they would have a great saving of animal food, a greater growth of corn, a better distribution of labour, and a better distribution of food—all which are the enduring results of a well-organised railway system, while cottons, linens, glass, and crockery decay, and leave no relic for the present or a future generation. Were we to begin society anew, we should first attend to what would further our abiding welfare, in preference to temporary and passing comforts. We are not exempt from the obligation in our present state, when we have a growing people sorely pressed for food, and with hourly increasing wants. Let us strive to our utmost to do what we can for their help. We need not stint before-hand; but when we can do no more, then let us stop.

H.

STRAY NOTES ON AMERICAN RAILWAYS.

BY A DANISH TRAVELLER.

American Dividends.—Boston and Providence Railroad Company has declared a dividend for the half year of 4 per cent.; Worcester Railroad, 4; Lowell, 4; Eastern, 4; Maine, 3½; and Taunton branch, 4. It is expected the Fitchburg will divide 5, the Western Railroad in Massachusetts already pays a dividend equal to 6 per cent. The Baltimore and Ohio Railroad nearly 5 per cent., although only completed to Cumberland. The Main Line Railroad, from Albany to Buffalo, pays from 8 to 14 per cent. The Columbia Railroad, with but small travel on it, pays at least 5 per cent. on its cost, although badly constructed, and without economy.

The Boston to Albany, or Western Railroad, have increased their profit very largely per cent.; also the Utica and Schenectady.

The Little Miami Railroad is opened to Yellow Springs. The receipts last year were 100,000 dollars. The work will be completed to Springfield, Illinois, next month, when the receipts will be greatly increased.

The Madison and Indianapolis Railroad is esteemed a promising concern; its business has doubled yearly since it went to work. The receipts this year being 100,000 dollars, would warrant a dividend of 20 per cent. on its stock.

The Boston and other journals are teeming with accounts of the success of the railroad, and very flattering accounts are given in Philadelphia papers concerning the Great Western Railroad, from Boston, to the effect that the net earnings, so far in 1846, are increased cent. per cent. upon the like period of 1845, without any increase of cost or charges; that the reserved surplus fund amounts now to 130,000 dollars; and that, on January 1st, 1846, the two sinking funds amounted to 465,251 dollars, sufficient, with the additional instalments, yearly and accruing interest, to redeem their whole debt at maturity. The gloomy days of the Boston Great Western Railroad are thus gone for ever, and shares are to rise.

The Central Railroad, Michigan, publishes receipts for freight, 18,572 dollars, passengers 14,346 dollars; total, 32,918 dollars for May

month. Aggregate for the last six months, 131,979 dollars. • More freight offered than could be done, for want of locomotive power. Under proper management, it is believed, this railroad would pay a dividend if the Eastern Company had taken to it, as was proposed, although the road does not terminate at any business-point. When it is extended to some point on the western coast of the Lake, it will command a great trade from the western states. It is hoped that the Company, as proposed, may purchase this railroad; but should the State of Michigan be obliged to hold to it, its receipts will, in a few years, pay a large per centage of the State debts and bonds. The sale was intended to cut off the great state patronage and corruption of public officers.

American Working Expenses.—The average expenses of 1,695 miles of railroad north of the Potomac river are 11-25ths of their annual receipts.

Extent of Railway Communication.—There is now in Pennsylvania, New York, and Ohio, 2,890 miles of canals, all made within the last thirty years, of which 1,170 are in Pennsylvania, which now has 700 miles of railroad, and with such progress, it is calculated, that in ten years, a continuous line to St. Louis will be completed, and in ten years thereafter to the Rocky Mountains.

Effects of Railways in the States.—Boston city has realised an increase of 30 millions in the value of her freehold estate since her connection with the railroad system, and her inland trade also most enormously; and she is making vast exertions to further connect herself with the far west in the like way by railroad. She has lately advanced 800,000 dollars for the completion of the Sandusky Railroad, which, when done, will give her the command of the Ohio trade by a direct line to Cincinnati. The Bostonian policy is far-reaching. Her grade is 80 feet per mile.

New York is following a similar, or rather parallel course, silently.

Ninety trains of cars are dispatched daily from Baltimore by railroad to different depôt stations in the country.

Baltimore is only restrained by want of funds (which they hope to obtain from England) from completing their railroad from Cumberland terminus, or some more convenient point, to Pittsburg, Wheeling, and Parkersburg in Virginia, on the deep waters of the River Ohio, free from drought and from freezing, which lower branch will give them the south and western trade, whilst Pittsburg will assure them the Lakes and northern business.

American Speed.—The Court of Errors of New York State, and sundry other grandees, were invited to dine with the directors of the Long Island Railroad on the 20th of June at Greenport, 97 miles from New York. They arrived from Brooklyn in three hours, and on the return tried the speed of the engine. Many of the miles were run in one minute, others in 75 seconds of time—a speed rarely attained in America.

The object was to view the natural impediments which oblige that railroad to be connected, and continue on to the Pennsylvania State, or not to be completed at all. The 10 per cent. call last made is well paid up. The traffic on the road increases rapidly, and it is said the concern is better managed.

Low Fares in the States.—From the policy of reduced fares all the railroads of New England are doing much more business, mostly gaining thereby, but some losing so as to oblige them to increase their charges.

The three railroad companies, between New York and Boston, viz., Long Island, Norwich, and Worcester, and Stonington routes, have raised the price of passage to 4 dollars—cheap enough for 220 miles—which it is hoped will give a more favourable complexion to their receipts, and the prices of their stocks. It is a curious fact that these roads on the route from and to those two important cities pay no dividend. They ought to seek a fair price for passage, and another route is now to be made inland through New England.

The Concord Railroad has been worked on a system of low fares, which is being tried in all the states east of Pennsylvania, and found profitable by swelling the annual receipts, with little or no additional charges. Concord Railroad, year ending May 31, 1846, receipts, 228,000 dollars, being increased 46,000 dollars on the year before; expenses, 135,000 dollars; net earnings, 93,000 dollars; capital, 800,000 dollars, or nearly 12 per cent. The reduction of fare increased the whole business so much as to require a second track to insure speed. On the Boston and Worcester Railroad, passenger receipts last half-year, 109,128 dollars; freights, 111,168; increased together, 25,168 dollars, notwithstanding a deduction made on joint business with the Western Railroad. It is now stated that one great cause of the failure of our railroads to pay dividends to the proprietors, was the high fares charged on those that rely chiefly on passengers the difference of cost in conveying few or many not being material. Railroads depending on freights chiefly, have their profits pretty much proportioned to the business done. The Pennsylvania and Southern Railroad, it is believed, might be made profitable by judicious management, and that they seem at present to lack of.

Railways and Trams in the Streets.—An attempt is making to remove the railroads from the streets of Philadelphia, whereon the cars are drawn by horses or mules; and it is answered, that these termini in every wharf and every tradesman's depôt are necessary to the success of the railroad system now extending, and that in the cities of New York, Baltimore, Boston, Albany, Troy, and several others, railroads traverse their midst, passing through the most populous, and, in some cases, narrow streets, for great distances, with great advantage to trade, and without inconvenience to the people. In Boston, the Worcester Railroad crosses six streets, and runs by steam power to the United States Hotel, within six minutes' walk of the Exchange.

The Magnetic Telegraph.—The magnetic telegraph is being extended in various long lines to distant parts of the country. A heavy penalty of penitentiary imprisonment has been enacted against persons damaging or interfering with the work; yet a means of counteraction has been discovered and successfully applied to cut off the communication and direct the fluid to the ground, rendering the concern useless, if the means should be published, as they must be in case of prosecution. During the frequent thunder-storms in May and June the telegraph apparatus has been repeatedly struck by the natural fluid, and some damage done in places. This system will probably go on some time to the use of those interested, but will not ultimately stand; though, like

the gas-light system, which has now grown during forty years, and people think it permanent, it may last its day. There are means known, and which are in every house, and within reach of every child, to render it impossible to use either with any regard to individual and public safety; and in June a wire was discovered thrown across the telegraph lines, thus uniting New York and Baltimore, and preventing both from acting.

The Irish in the Far West.—There has been a serious riot among the labourers on the Vermont Railroad, near Richmond, twelve miles from Burlington; the military were called to quell it.

Cattle on Railways.—A Baltimore jury and the court have decided that a railroad company is not liable for cattle killed, or other things damaged on a railroad—that the owners are bound to watch and take care of their property, and keep it off the railroad. Upon this a Philadelphia paper says, “the necks of the passengers on cars, and persons on the railroad, are at the risk of the owners.” Every day produces new disasters reported as happening on railroads in the United States; hundreds of lives are continually endangered by reckless conduct in the management of the trains, and by calculating villany and neglect in driving, or suffering cattle and other obstructions on the railroad lines.

Storms and Floods.—Destructive storms and consequent floods, at short intervals this year, have done immense injuries to public works and private property in various parts of the United States and British America; and fearful accidents and mishaps continue on the railroads and steam-boats, with loss of lives. Many from wilfulness, such as that on the Baltimore and Ohio, on the 19th of June, in chasing cows, and upsetting the train thereby.

Further damages have been sustained from renewed floods in Pennsylvania.

The railroad bridge at Harrisburg, June 29th, suffered a fourth accident, by the loss, in a gale of wind, of two of the spans that had been rebuilt successively after destruction by fire and the floods.

Railways to Canada.—Great efforts are being made to secure railroad connections between works in progress or finished, so as to unite New York by railroad to Lake Erie, and eastward through New England to Portland, in Maine.

It is said that the railroad from Portland to Montreal is to be commenced immediately, notwithstanding the disagreements in England, and the shares not being properly taken up and distributed.

The Atlantic and St. Lawrence Railroad Companies have met by a joint committee, and, by a treaty of eleven articles, arranged the mode of constructing and governing the use of this railroad by the two boards of directors, one at Montreal, the Canadian terminus; the other at Portland, the sea-coast terminus; and for the costs of repairs and working, and division of the profits. This treaty, which is very long, has been ratified by both corporations, and their common seals affixed. All future cases of arrangements or settlements that may occur in the lapse of time, are to be adjusted by a course of arbitration now fixed. The proprietors will only be safe in constructing the railroad *in toto* on British territory, from the sea upwards.

The Great Atlantic and St. Lawrence Railroad, from Portland, Maine, to the St. Lawrence, has been contracted for as far as North Yarmouth, and will be commenced immediately.

The Great Central Railway of Pennsylvania.—The Pennsylvania Great Central Railroad occupies much attention. The now estimated cost is not less than 10,000,000 dollars; but it is proposed to raise only three millions at present, to save the monopoly which is only secured against the Baltimore and Ohio Railway Company on that condition for sixteen months; and it is doubtful, if the city of Philadelphia does consent to take 2,000,000 dollars of the stock, whether another million can in these times be obtained from individual subscribers. The present favourite line affords 28,180 feet of viaducts in thirty-one places; their total heights are 593 yards, and their heights vary from 35 feet to 250 feet. Fourteen tunnels, of various lengths, from 133 yards to 1,866 yards long; and one, the length not ascertained; besides that one, the lengths amount to four miles, and one range of excavations for 1,000 feet long 27 feet high, and for 2,000 feet 40 feet high, and one embankment for 2,000 feet long 50 feet deep. Another inspection of the country is in progress to discover another, and the best line, before going to work. But the progress of the undertaking is doubtful before times alter for the better; and then it is expected the proprietors cannot gain anything without extending the railroad from Philadelphia to the mouth of the river Delaware, so as to unload large ships and others with dispatch, and save the time employed in coming and going on the river, which has transferred the East India and other valuable foreign trades to New York city, whence these works for the rapid distribution of cargoes in the back country, will retrieve it, and there-with the shipping of Philadelphia.

The projectors of the Great Pennsylvania Central Railroad estimate their annual receipts, when in full work—gross, 2,157,300 dollars; supposed expenses, 11-25ths of receipts, 1,101,000 dollars; net profit yearly, 1,055,700 dollars, or 12 per cent. on a capital of 10,000,000 dollars, and a surplus in reserve.

The managers of the Reading Railroad assert that, notwithstanding its largely-accumulated debts, this railroad will earn in the present year a clear dividend of at least 10 per cent. to the shareholders; and judging from this statement as data, a much larger dividend may be expected on the Great Central Railroad of Pennsylvania. But the subscription by the city as a corporation was strenuously opposed, and yet stands over; and there appears less ability than disposition in individuals to subscribe to the new railroad stock, though Pittsburg would be brought within 336 miles of Philadelphia, of which the part to Harrisburg, 106½ miles, is finished and in work, the remaining 226½ to Pittsburg having no gradient above 45 feet per mile, and the whole work easy of construction at a cheap rate.

The making of shares in Philadelphia for the Pennsylvania Great Central Railroad commenced on June 22nd, when, at three o'clock, 6,080 shares had been written for, whereof 3,200 shares were written for by eight persons to set the affair going. It is expected to procure English capital for this, as in the case of the late purposely ruined United States Bank; and their fate who supply the funds will be the same. If 3,000,000 dollars of this railroad stock shall be written for within the limited time, the concern will go to work.

The commissioners for forming the Pennsylvania Railroad have distributed books for subscriptions in the principal towns of the State.

A committee of the city council of Philadelphia has recommended that a subscription be made on behalf of that corporation, to the extent of 2,500,000 dollars, to take effect when the like sum shall be subscribed or contracted for by other authorities and private persons. This amount will have to be raised by loans charged on the city revenues, at a certain interest, and only differs from the uncertain revenue to be derived from the railroad if constructed.

The Philadelphia and Pittsburg, or Pennsylvania Central Railway commissioners, are making great efforts, by stimulating addresses, to get the people to subscribe; but the list goes on very slowly. Only 700,000 dollars of the stock was subscribed in Philadelphia the first six days on the books.

The Philadelphians yet hope to fill the subscriptions, and make what remains to be built of the Great Pennsylvania or Central Railroad to Pittsburg, and a branch railroad from Columbus to Wheeling, which latter will give them the land-produce trade brought by the river to Wheeling, and the re-shipment and supply of foreign goods to the western countries by the Portsmouth and Cleveland Canal, the Northern Lakes, Cincinnati, the White Water, Wabash, Illinois, and Miami Canals, and river navigations free from ice in the great west and south. The line of railroad is, at profitable business, complete from Philadelphia to Chambersburg, thence to Wheeling, 184 miles, through a country of coal for a radius of seventy miles round Wheeling, which can be mined so readily as to supply bituminous fuel cheaper at Chambersburg, than anthracite, of a nearer production, is now obtained by railroad. A grant of land, in aid of this latter project, is expected from the United States Congress.

The Great Southern Railway.—The citizens of Mississippi, Alabama, Georgia, and South Carolina, are making great efforts to complete the Great Southern Railroad to connect the Mississippi river with the Atlantic. The line is to connect Jackson, in Mississippi, with Montgomery, Alabama; the direct distance is 103 miles in Mississippi, and 124 miles in Alabama, or about 240 miles on the probable course to be taken. From Jackson, by the railroad now in use, to the Mississippi river at Vicksburg, and a branch to Natchez, and eventually westward to Texas. At Montgomery, this railroad is to connect with the Montgomery and Westpoint Railroad, of which about forty-five miles are completed, and the remaining forty-five miles in progress, and mostly graded to be finally completed next year to Westpoint; from thence to the Macon and Western Railroad is fifty-three miles. The rights to make all these connections are granted. This railroad will bind the Charleston and Savanna lines of railroad already made, or in construction, connecting all the points with the Mississippi river, the ocean, and the interior. The estimated cost is 3,000,000 dollars, towards which the Company has granted 500,000 dollars of the two per cent. fund of Alabama, set apart for this route, but loaned out to the Montgomery and Westpoint Railroad Company; and also the two per cent. fund of Mississippi, amounting to some 300,000 dollars more. These two sums are gifts granted to encourage foreign subscriptions for the Company's stock. And there is a bill before Congress, and now in the Senate, for giving the sale price of the alternate sections of United States lands *along the line* for a certain distance from the railroad; so that it is esti-

mated that a subscription of 150,000 dollars only in hard money, every four months, will be sufficient to commence the works, or 450,000 dollars yearly; and it is observed that the climate and soil are favourable for the perpetual use of the road, without any interruption from snow, rain, or other impediments. The subscription is for a capital of 3,000,000 dollars, in shares of 100 dollars each, 5 dollars to be paid at the time of subscription, 5 dollars in six months, 5 dollars in eight months, 5 dollars in ten months, and the remainder as called for, not closer than 10 dollars every sixty days, and the Company to go into activity when 500,000 dollars shall be signed for. The Company is perpetual, and has power to purchase any railroad that shall be directly or indirectly connected or in communication with their railroad. The government funds granted are only to be issued when a like sum of subscription-money has been expended on the works. When this railroad is completed the time of travel will be lessened on the whole line to two days at least; between Charlestown and St. Louis, six days; New Orleans, three days; Galveston, five days; and between Vicksburg and Washington city, a little over four days; and New York, five days; and on the completion of the Chattanooga and Nashville Railroad, this will be the ordinary route of travel from Nashville to Vicksburg, in forty-eight hours. The distance to Vicksburg from Savanna is set down at 670 miles, and from Charlestown at 790 miles.

Pittsburg Railways.—The subscriptions for the Pittsburg and M'Connellsville Railroad (to join the Baltimore and Ohio Railroad at or near Cumberland) go on slowly. The act of incorporation has been signed by the governor of Pennsylvania. The most important news to Baltimore of late is said to have been received in letters from the Hon. Mr. M'Lane, that he will speedily return and resume his post as president of the Baltimore and Ohio Railroad; that he approves the purchase of the majority of shares in the stock of the said Connellsville Railroad, provided the next Pennsylvania legislature do not interfere with the charter; and that, such is the confidence of the London capitalists in his judgment, that they are prepared at any moment to loan the Baltimore and Ohio Company whatever sum may be required for the purpose. So that, if he deems the route safe and practicable, within two years Baltimore and Pittsburg will be united in the enjoyment of the southern and western trade, and the loan-makers in possession of Maryland securities.

A new survey has been made from Cleveland, Ohio, on the Lakes to Pittsburg; and two lines have been pointed out, both of which would connect with the Cleveland and Cincinnati, or Ohio Great Railroad. Cleveland is called the key of the Northern Lakes, and must always be a great centre of trade, foreign and domestic. These two lines diverge at Ravenna. The new line has two tunnels; one 462 yards, the other 924 yards; the extent, Ravenna to Wellsville, sixty-two miles. The route through Salem is nearly two miles shorter; but the new route reaches the Ohio river one mile shorter than that by Salem does. Its highest grades 50 feet per mile; its smallest curves 1,500 feet radius. Both grades and curves may be materially improved for use by certain deviations, not much increasing the distance between Ravenna and Cleveland, to 40 feet per mile maximum grade. On the first route surveyed (through Salem) a tunnel one mile in length would reduce the grade to 62 feet per mile, and increase the cost 80,000 dollars; and by

a change (near Salem) the grade might be reduced to 60 feet, by increasing the length and cost. Between Martin's Mill and Wellsville the grade cannot be made less than 80 feet per mile, nor the curve 1,000 feet radius. A short tunnel of 99 yards will improve the small curves near the summit; the other two tunnels improve the grades altogether. The argillaceous and sand stone formations of Ohio are cheaply wrought and easily tunnelled through, and the bridges not costly. Estimated cost:—Cleveland to Ravenna, 301,000 dollars; Ravenna to Mahoning Summit, 187,427 dollars; said Summit to Wellsville 352,538 dollars; add for damages, dépôts, water stations, locomotives, and contingencies, 200,000 dollars, or a total of 1,050,594 dollars. The route through Salem 1,006,068 dollars.

New York Railways.—The Northern New York or Ogdensburg Railroad is considered an undertaking hardly less important in its bearings on the business of Boston than that of the Western Railroad to Albany. This northern line takes over many of the high hills of Massachusetts, the higher and harder hills of North Hampshire, across the Green Mountains of Vermont, and through the whole breadth of Northern New York, which is comparatively a wilderness, and which region has been reputed and believed to be a type of Siberia. This railroad, when constructed (and the labour and expense must be very great) will be, emphatically, the great thoroughfare of business and travel between New England and the interminable west, and also between Upper and Lower Canada and the Atlantic coast.

The Long Island Railroad is ninety-five miles long, and except the first thirty-five miles from New York, passes through a sterile desert, capable, perhaps, only of growing the peach tree, if cultivated as it is on the wastes of New Jersey, Long Island. It was originally granted in vast patches of land for political services, and is so held now by parties who are unable and unwilling to cultivate or improve; so the view from the railroad is desolate in the extreme, and being on a level is run over very rapidly and at a little cost. The land would now be sold within two hours of New York city for 5 dollars an acre, and here and there an adventurer has procured it at only 2 dollars, and ruined himself at that low price!

A Niagara Railway.—A railroad has been constructed to descend from the elevation to the bottom of the falls of Niagara, worked by a water power. The descent appears much more easy to lazy people, but more dangerous than the ladder stairs. It is contemplated to apply the waterfall powers to manufacturing purposes. A steam-boat has been built to convey passengers on the lower level in and about the cauldron at the falls.

Meeting Creditors.—A special meeting was held, June 23, in Philadelphia, of the Baltimore and Ohio Railway Company, when the holders of the floating debt, 250,000 dollars, and loan, May 26, 1842, 900,000 dollars, agreed to convert their loans into 1,150,000 dollars, stock at par, to extinguish their whole claims. The holders of 1855 and 1858 mortgage bonds agreed to consolidate and postpone their loans to 1860, together 2,161,796 dollars. The capital of the Company in shares is now 3,330,000 dollars afloat. The stock and loans together are about 5,491,000 dollars, any surplus beyond interest will now go to *the shareholders.*

GLEANINGS AMONG MINES AND MINERS.*

THE richest mine in the neighbourhood of Camborne is **WHEAL SETON**. It commenced working in 1834. The outlay by the proprietors before the mine made profits was about £25,000; and it is now paying dividends at the rate of £8,910 per annum. The working cost is about £1,000 per month. A new steam engine of 70-inch cylinder is about to be erected, which will keep the dividends at the same rate as now paid for some months to come. The mine itself is looking well, and a lode in the 60-fathom level is worth £250 per fathom. A winze going down below this level is also worth £250 per fathom.

NORTH ROSKEAR, near Seton, has been, and still is, a very rich mine. It has been worked more than fifty years, and has left a profit of £100,000. In 1845, the dividends of profit paid to the shareholders, amounted to £12,600. They are now rather irregular, and the mine does not seem to be worked so effectually as it might be, whilst the agencies charged, we have been informed, are enormous. One agent alone gets £20 per month. The mine principally belongs to Mr. Pendarves, M.P. The large flour business carried on in connection with it, we presume, belongs to the agent. More of this anon.

EAST WHEAL CROFTY is an old mine which has made large profits, but pays dividends now very irregularly. In 1845 she paid £10,810 profit. Her returns of copper from 1831 to 1842, amounted to 63,582 tons, yielding in money, £355,950 3s. The cost of working is about £2,000 per month. At present this mine is not looking brilliant, whilst the low standard for copper affects her, as well as it does many others of the deep mines.

STRAY PARK AND CAMBORNE VEAN MINES, near to East Wheal Crofty, and the other rich mines in this district, are now doing extremely well; we should say, next to Wheal Seton, are in a more prosperous state than any near them. They have been worked for many years. Stray Park formerly left a profit of £40,000, and Camborne Veau of £200,000. The present proprietors, principally out-adventurers, have been working the mines about fourteen years, and have expended nearly £40,000. In 1842 they obtained new leases at 1-24th dues for 21 years. They have this year divided £1,000 profit, and are now leaving a profit of about £400 per month, at a cost of £1,000. Should the mine continue in her present condition, three more dividends of £1000 each will be paid this year. The deepest level is 180 fathoms below the adit. In the 150-fathom level there is a pitch yielding 10 tons of ore per fathom, worth £6 per ton. The returns of copper ore from 1815 to 1842, yielded in money £219,239 8s 6d.

We visited several other mines in this and the surrounding neighbourhood, but our notes of them will keep for awhile, whilst we again travel eastward towards Tavistock. Going from Truro to Launceston, there are but few mines, and none of much consequence. In St. Enoder, those known in London (and we do not write for the informa-

* These letters are by a learned authority on mining, and were sent up to town in a detached form.—*EDITOR.*

tion of Cornishmen—they are already too enlightened) are **PENCORSE** and **CHYFRAZE**. The former, as a young mine, held out great promise, and is not yet to be despaired of, although it will be necessary to see the lode at a deeper level before much good can be said of her. The cost of working is very easy, which is a great desideratum in proving a mine. Chypraze was a promising tin mine, and has paid dividends this year, we believe, amounting to £1,239.

The first mines we visited in the neighbourhood of Tavistock were the **DEVONSHIRE GREAT CONSOLIDATED**. There is no affectation in the mines, although there is a great deal in their names. They are situated in the midst of the most gorgeous scenery, which it would be in vain for us to attempt to describe. We do not wonder that the late Duke of Bedford refused to allow mining operations to be carried on to the discomfiture of his pheasants, and the disfigurement of his woods. The former have all disappeared since the commencement of Maria, with the exception of one "old cock" who yet lingers on the scene, in spite of the noise and bustle of the miners. As a full and elaborate account of the mines belonging to the company, written by the manager, Mr. Hitchens, was published in London a few weeks since, it would be useless to give our notes here. Our readers can refer back and find every particular entered into by Mr. Hitchens, not only as regards past operations, but prospective views. In the latter we cannot profess either to co-operate or to disagree with him. We only hope he may be correct. The opinion we have formed from the careful examination of facts and results of many of the mines we have visited in every district of Cornwall, would lead us to the conviction that whilst fair conclusions may be drawn from discoveries and appearances, and whilst ore ground may be, to a certain extent, calculated upon, where laid open, yet there are many things to be considered before determining as to what may be relied upon for the future. There can be no doubt that Wheal Maria was one of the most extraordinary discoveries ever made in mining. The thing is unparalleled, for a Company to divide nearly £80,000 profit from one mine in a year, upon an original outlay of a mere trifle; and there also cannot be a doubt that there is still a vast quantity of ore discovered, and holding down. The works at the surface are most judicious, and the machinery excellent. Tram roads are being laid down, and other work in progress, which, in a short time, will render the Company's mines the most complete and efficient for economical working, although they involve a considerable expenditure now. We can only add, to be appreciated as a mine, Wheal Maria must be seen.

Adjoining Wheal Maria to the west is **WHEAL FORTESCUE**, a narrow slip of ground, in which an adit is being driven to intersect the lode. The ground is very hard, and it will take some time yet to meet with it.

WEST WEAL MARIA adjoins Fortescue, and is one of the most promising speculations in the district. Before Wheal Maria was discovered it was worked as Wheal Morgan, and a shaft sunk 40 fathoms, from which ores to the value of nearly £4,000 were raised. Owing to some difficulties of the manager the works were stopped, and the lease, unfortunately for the Company, given up to the lord. Upon the discovery of the Maria lode, a new lease was obtained of the sett by Mr. Hitchens. An engine is about to be erected over the old shaft. 50 fathoms east of *this shaft there is another down 17 fathoms, and in course of sinking,*

though slowly, on account of the water. This will be worked by flat rods when the engine gets to work. In this shaft there is a lode 4 feet wide, composed of mundic and sugary spar, precisely similar to the lode in Maria, of which, in fact, this is supposed to be the north branch, though, at present, not near so deep as where the ore was discovered in Maria. The outlay has not been much, and the greatest drawback to the concern is, there is a want of energy somewhere in carrying on the works. The engine ought to have been erected and at work months ago, and the shafts got down as quick as possible.

Near West Maria and Wheal Fortescue, on the opposite side of the River Tamar, is WHEAL WILLIAMS, the mine to obtain which there was, a few months since, such great competition. It was, many of our readers will remember, eventually obtained by a Truro party, who, in addition to 1-12th dues, offered the Duchy of Cornwall 33 per cent. out of the profits besides. This was considered so monstrous a premium, and so bad a precedent, that few parties, except those who obtained the lease, have thought well of the concern, though the sett is really a most promising one, and well situated for taking the south branch of the Maria lode. The operations are going on very satisfactorily. The driving on the end on the south lode has been suspended, and the men are now sinking the shaft on the west bank of the river; the water here is quick. The shaft in the Monbay is also suspended, and the men are sinking 70 fathoms further west on the same lode, where it is 11 feet wide, with copper in it. On the north lode they have sunk 3 below the open cutting, and have a fine lode 8 feet wide, with good portions of ore. There is another lode 10 fathoms south 6 feet wide, with spots of copper. 50 fathoms further south there is a strong gossan lode about 2 feet wide; sunk upon it about 6 feet. An engine will soon be required.

We scarcely ever witnessed more picturesque scenery, even among the lakes of Cumberland and Westmoreland, or the mountains of Wales, than may be seen on the road from Wheal Maria to Morwelham, passing along the bridle road through the woods near the banks of the Tamar, and by the Morwell and Monkey rocks. The journey would well repay the tourist even if undertaken, as ours was, in a broiling sun. About midway on the road we passed through the BELFORD UNITED MINES, altogether a large concern, and held principally by the Wheal Maria party. The mines consist of Wheal Marquis, Ding Dong, East Ding Dong, &c. The outlay by the present proprietors has been £8,000, whilst for the last year or more the returns, yielding about £600 per month, have about paid the cost of working. The mines now are not looking brilliant. The HAWKMOOR MINE, near here, is considered a fair speculation, but is not yet making any returns. The outlay has been nearly £3,000. The cost of working is about £150 per month. On the opposite side of the Tamar, and consequently in Cornwall, may be seen the GUNNIS LAKE MINE, one of the oldest in Cornwall, and celebrated for its rich varieties of copper ore. The mine has been worked very extensively, and left a profit many years since of £250,000. The present Company of proprietors have been working it about three years, and have expended something like £7,000, with a prospect ere long of having a productive concern. This, as well as the Belford United, Hawkmoor, &c. is under the management of Mr. J.

H. Hitchens, of Wheal Maria. Near Gunnis Lake is a very old tin mine, called **DRAKEWALLS**, now being worked by the Finsbury-square party, and in which there is, it is said, a lode of tin worth £40 per fathom.

At **MORWELHAM**, which is a sort of quay on the Tamar, the ores raised from the mines in the neighbourhood are sampled, and when sold, shipped for Wales. When the ores to be sampled are at the quay, a day is fixed for the samplers to attend. The ore is laid in heaps of several tons each, according to its quality; and each heap being cut in four by the sampler, samples of them are taken and sent to the different offices to be assayed, and the buyers regulate their offers according to its produce, or the quantity of fine copper per cent. We believe the process of the assay is generally to take an ounce troy of the ore pulverised, and place it in a crucible with proper fluxes, when a bead or prill of copper is found among the scoria. If this prill be one dwt. the produce of the ore will be one in twenty, or five per cent; that is, it will require 100 tons of the ore to produce five tons of pure copper, and so on. The day before the sampling, the agents of the different copper smelters attend, and see the ores which had been previously sold weighed off, previous to shipping; and it was on an occasion such as this that we were at Morwelham, and dined at the "weighing" dinner, where we found what was rather rare—both salmon and trout from the Tamar. We do believe, that were mining dinners to be discontinued on all these occasions, the mines themselves would stop. It seems a startling proposition, but really nothing can be done without these dinners at "owners' cost," and very pleasant things certainly they are; and pleasant, too, it is to see the appetites of the "captains." There are connected with a mine, "settling days," "pay days," "weighing days," "sampling days," "ticketing days," and "account days;" and each day has not only its peculiar duties, but its peculiar feast. Verily, mining is not so bad as many people in their innocence imagine. A man having the management of a dozen mines, may live free the year round, if he chooses. About four miles from Morwelham, and eight from Tavistock, we come to Beeralston, to the **EAST TAMAR CONSOLIDATED MINES**. They include a very large tract of ground, are very promising, and returning about twenty-five to thirty tons of silver lead ore per month. This does not quite pay the cost of working; but the present raisings are from old workings, and when the levels get into whole ground under them, much larger returns, and good profits are anticipated. There are two steam engines, one at Whitsun, the other at Furzehill. The shaft at Whitsun is down to the 50-fathom level. The outlay by the present Company has been £11,500. A new sett, called **SOUTH TAMAR**, has very lately been taken up by the East Tamar Company, to be worked separately. It is a very promising piece of ground, and runs from East Tamar sett to the river Tamar. The mines belonging to the East and South Tamar Company were formerly called Beeralston, and by this name may be recognised by many as having created great excitement and noise a few years ago. They were then worked by a London Company; and whilst lead was bringing only £12 a ton, and they were paying £5 5s. per ton for gunpowder, they had an establishment of seven or eight directors in London, with large salaries; two managing directors at the mines with salaries of

£800 a-year each; and whenever any silver had to be carried to London, the whole mail was engaged to take it. The offices in Bishopgate-street were like a palace, and an usher, with a gold stick, stood at the door. With all these things it was scarcely possible that any mine could pay profits to the shareholders. We are not, therefore surprised at the losses in this instance incurred by so many, and we mention it merely to contrast it with the present mode and expense of managing the mines by the East Tamar Company. Now that the silver lead is yielding £18 per ton, and the gunpowder and other supplies required for the works are cheap, the total expense of London management, including directors, secretary, and office expenses, is £150 per year; whilst the expenses of management at the mines amount to about the same sum.

From EAST TAMAR we rode to see an extraordinary discovery of lead which had just been made at WHEAL AGNES, a young mine in the lands of Lord Mount Edgcumbe, and lying between the Old Tamar Consols and the East Tamar. A lode running north-east and south-west, and worth £40 per fathom, was discovered very near the surface, and from this we found between 5 and six tons of rich lead had been raised. The lode has also been cut 40 fathoms further north, and an adit is being brought to try the lode 12 fathoms deep. There is great excitement here about it, and parties giving at the rate of £30,000 for the mine. The adit, which is now in course of driving, will show whether or not the mine is to prove a "Maria" in lead.

The OLD TAMAR MINES are near here, on the banks of the Tamar, but we did not go to them. They have been extensively worked, and paid the present proprietors £15,900 profit. The last dividend was paid in January, 1845. They are little more than paying cost now, and labouring under the greatest bane of mining—expensive management.

To return to the Maria district. We have LAMERRHOE WHEAL MARIA, about a mile and a half from the celebrated mine. Most extensive operations are going on here. The outlay has already been nearly £5,000, and the mine only commenced working in 1845, on a lease for 21 years. Eleven lodes or branches have been discovered in the sett, and a steam engine of 60 inch cylinder is now being erected to try some of the principal of them. We can only say, the proprietors are working with spirit, and deserve a good mine. They will, however, have to lay out more money yet.

There are several other mines round about here—mines which spring up like mushrooms, upon the discovery of Maria, such as East Tincroft, and South Maria, Comb Vale, Great Wheal Williams, &c., &c.. The operations are neither extensive or interesting.

WHEAL BENNY, near Lamerrhoe, is a promising mine, and only wants a better set of adventurers to work her.

WHEAL ELIZABETH, or CREASE—to the east of Wheal Maria—and supposed to have the eastern part of her lode, is considered a good speculation; but the works are going on slowly. So soon as the projectors of these setts have obtained premiums for their shares, they seem to think their part in the drama is performed, and the working the mine seems a secondary consideration. We should like to see a little more activity displayed in many mines we could mention.

On the road from Beer, to Tavistock, and which we neglected to

notice in our last, may be seen the DEVON, and COURTENAY, and EAST CROWDALE MINES. The former are situated on the top of a high hill, and the mouths of the adits may be seen on the side of it, from the road. The mines are considered highly promising. The outlay has been £6,000. Some months since a lode 14 feet wide, composed of gossan, was cut near the surface, and the principal operations now going on are sinking a new engine-shaft to take this lode 45 fathoms deep; and driving the deep adit end on the same lode, which is now about 2½ feet wide, and yielding one ton of ore to a fathom. This is a very promising lode. There are four others in the sett, which is a mile and a half in length, and one mile in breadth. An engine is about to be erected; the contract was that it should be in the mine by the 19th June.

On the other side of Tavistock, on the road to Launceston, may be seen the oldest mine in the Eastern District, WHEAL FRIENDSHIP COPPER MINE, which has been at work now more than fifty years without intermission, and has, we were informed, yielded a profit of £300,000. The mine is worked entirely by water power, for which purpose there is a fall of water of upwards of 500 feet. There are a great many wheels going for the purposes of drawing, crushing, and stamping the ores; but our attention was more particularly directed to two, which are, we suppose, the finest in England. The diameter of the largest is 55 feet, with 12½ feet breast; the axle alone weighs 40 tons; total weight of wheel 120 tons. The other is said to be a little smaller, though one can scarcely discern the difference. Besides the numerous wheels, there is an 80-inch cylinder steam-engine; it is idle, however, and only required in times of great drought or frost. The mine is under the management of Mr. Taylor, of the Adelphi, and is still paying good profits, though we were not able to learn her exact returns.

Still further on is the wreck of WHEAL BETSEY LEAD MINE, which has just been "knacked." She was, when at work, under the same management as Friendship, and worked by the same stream of water. About the year 1821, Wheal Betsey was in her greatest prosperity, and returning 400 tons of lead and 5,000 ounces of silver annually. Of late years she scarcely paid cost.

About a mile west of Wheal Friendship we accompanied Mr. Hitchens to a very promising young mine, WEST WHEAL FRIENDSHIP, situated in strata precisely similar to the first-named. The lode was first discovered in the side of a hill, and was 14 feet wide, composed of a beautiful gossan. A shaft (now down 20 fathoms) is in course of sinking to try this lode at 30 fathoms in depth, and which will throw some light upon the concern. A water wheel is about to be erected. The outlay has been about £1,000.

We have now (in this, and in the papers which have preceded it), given the particulars as we found them of near 80 mines which we visited; and before we give any more gleanings from our note book, we may remark, that we have refrained from entering into any pointed remarks, in regard to abuses of management of many, because it will be subject of remark perhaps hereafter.

THE
GROSS RECEIPTS OF RAILWAY TRAFFIC,

FOR

LAST WEEK OF JULY AND THE THREE FIRST WEEKS OF AUGUST.

Int er- be d.	Total amount already expended.	Last Dividend.		NAME OF RAILWAY.	July, last week.	August, first week	August, second week.	August, third week.
		Per share.	Per cent. per annum.					
	£	£ s. d.	£ s. d.		£	£	£	£
100	144,203	—	—	Arbroath and Forfar .....	...	258	348	299
163	1,527,207	3 0 0	0 0 0	Birmingham and Gloucester ..	...	...	...	...
	667,823	{ 20s. }	{ 4 0 0 }	Bristol and Gloucester .....	...	...	...	...
	589,362	{ 12s. }	{ 2 12 0 }	Chester and Birkenhead .....	...	1040	...	...
		{ 13s. }						
		{ 6s6d. }						
100	631,258	1 4 0	3 14 0	Dublin and Drogheda	847	1,021	085	075
100	340,736	—	0 0 0	Dublin and Kingstown	1,140	1,450	1,171	1,143
100	153,598	3 0 0	0 0 0	Dundee and Arbroath .....	...	419	433	417
100	302,118	0 10 0	2 0 0	Durham and Sunderland .....	...	639	500	607
621	4,090,328	{ E. 9s. }	{ E. 6l. }	Eastern Counties and Northern	...	9,414	8,006	8,035
		{ N. }	{ N. 5l. }	and Eastern .....	...	...	...	...
100	16,86,220	1 10 0	6 0 0	Edinburgh and Glasgow	4,215	4,139	4,116	4,735
100	1,104,773	1 15 0	7 0 0	Glasgow, Paisley, and Ayr	2,405	2,736	2,315	2,261
696	606,134	0 5 0	2 0 0	Glasgow, Paisley and Greenock ..	1,348	1,324	1,270	1,242
233	2,507,317	5 0 0	10 0 0	Grand Junction, amalg. with Lon & N. Western	...	...	...	...
	82,828	—	—	Gravesend and Rochester .....	...	346	295	330
100	1,296,196	5 10 0	6 0 0	Great North of England .....	...	...	...	...
100	8,179,980	3 4 0	8 0 0	Great Western	21,240	21,501	21,771	20,453
		—	—	Hartlepool	1,012	949	866	902
375	701,740	1 10 0	6 0 0	Hull and Selby, amal. with York and N. Midland	...	...	...	...
1,708	1,774,331	5 0 0	10 0 0	Liverpool and Man., amal. with Bir. & N. Western	...	...	...	...
1,000	15,047,201	5 0 0	10 0 0	London and North Western	46,700	46,270	47,096	46,285
1,000	1,078,761	0 2 6	1 10 0	London and Blackwall .....	...	1,490	1,440	...
1,000	2,653,673	1 15 0	7 0 0	London, Brighton and South Coast .....	...	12,065	10,530	9,831
333	842,592	0 7 0	3 10 0	London and Croydon amalg with London, Brightn. and South Coast	...	...	...	...
1,000	2,020,724	2 2 6	10 4 10	London and South Western .....	...	8,953	8,944	8,182
1,000	2,107,585	1 3 10 1/2	6 2 4	Manchester & Birmingham amal with Lon & N. West	...	...	...	...
333	3,372,240	2 18 0	8 6 0	Manchester and Leeds	7,789	7,367	7,925	7,785
1,000	842,723	2 14 0	5 16 0	Manchester and Bolton, and Bury .....	...	1,222	1,410	1,240
1,800	6,636,105	3 10 0	7 0 0	Midland .....	...	19,117	20,165	2,963
1,000	1,137,385	—	5 0 0	Newcastle and Carlisle .....	...	2,103	2,134	2,227
—	1,272,031	1 2 6	9 0 0	Newcastle and Darlington	3,161	3,185	3,237	3,437
1,000	316,869	1 5 0	5 0 0	Newcastle and North Shields .....	...	627	570	540
—	573,818	0 10 0	5 0 0	Norfolk	2,074	1,616	1,481	1,575
—	1,060,551	3 7 6	6 15 0	N. Union & Bolton & Preston, amalg. with Man. and Leeds	...	...	...	...
1,000	432,014	0 12 6	2 10 0	Preston and Wyre	1,204	1,484	1,508	1,420
1,000	1,313,225	—	5 0 0	Sheffield and Manchester	2,150	2,283	2,270	1,931
1,277	4,284,924	0 16 0	3 4 0	South-Eastern and Dover	10,180	11,265	10,180	10,168
1,000	648,348	3 3 0	5 0 0	Taff Vale	1,161	1,233	1,078	1,248
1,035	358,333	—	5 10 0	Ulster .....	...	616	...	...
1,666	1,632,859	50s., 25s.	10 0 0	York and North Midland	7,411	6,845	7,414	7,478
				FOREIGN RAILWAYS.				
1,000	—	0 8 0	4 0 0	Northern of France .....	...	...	6,783	6,647
1,000	599,040	0 2 5	4 0 0	Orleans and Bordeaux .....	...	...	2,432	2,648
1,000	2,082,918	—	9 10 0	Paris and Orleans .....	...	...	6,989	7,403
1,000	—	—	5 0 0	Paris and Rouen .....	...	6,901	7,217	8,130

Shares.	Railways.	Paid.	CLOSING PRICES.			
			August 5.	August 12.	August 19.	August 26.
£		£				
50	Aberdeen	15	6 — 5 dis	6½ — 5½ dis	6½ — 5½ dis	6½ — 6 dis
100	Amber, Nott, Boston, & E. Jun. Birmingham and Gloucester ..	100	129 — 131	130 — 132	127½ — 130	126 — 128
25	Do. New (issued at 7½ dis.) ..	17½	32 — 33	32 — 33	31½ — 32	31½ — 32½
50	Birmingham and Oxford Junction ..	2	5½ — 6 pm	4½ — 5½ pm	3½ — 3½ pm	3½ — 4 pm
100	Bristol and Exeter	75	11 — 13 pm	11 — 13 pm	11 — 13 pm	11 — 13 pm
25	Do. New	5	6 — 8 pm	5 — 6 pm	5 — 6 pm	4½ — 5½ pm
50	Bristol and Gloucester	30	21 — 23 pm	20 — 22 pm	19 — 21 pm	20 — 22 pm
20	Buckinghamshire	42s.	.. .. pm	½ dis .. par	.. .. ½ dis	.. .. ½ dis
50	Caedonian	20	4 — 3½ dis	4½ — 4½ dis	4½ — 4½ dis	4½ — 4½ dis
25	Do. ½ Shares	2½	1½ — 0½ dis	1½ — 1 dis	1½ — 1 dis	1½ — 1 dis
25	Do. Extension	9½	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis
50	Cambridge and Oxford	14	.. .. dis	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis
25	Chester and Holyhead	27½	.. .. 1½ pm	1 dis .. par	1½ — 0½ dis	2 — 1 dis
20	Churnet and Blythe	2	.. ..	.. ..	.. ..	.. ..
25	Cork and Waterford	14	.. ..	.. ..	.. ..	.. ..
50	Cornwall	5	4 — 3½ dis	4 — 3 dis	4½ — 3½ dis	4½ — 3½ dis
25	Direct Northern	9½	4 — 4 dis	4 — 0½ dis	4 — 4 dis	4 — 0½ dis
25	Dublin and Belfast Junction ..	10	5 — 3 dis	6 — 4 dis	6 — 4 dis	7 — 5 dis
50	Dublin and Galway	4	2½ — 2 dis	2½ — 2 dis	2½ — 2 dis	2½ — 2 dis
40	Eastern Counties	14.16.0	24 — 24½	23 — 23½	22½ — 22½ ex d	22½ — 22½
Average	Do. New	14.16	7 — 8 pm	7 — 8 pm	7 — 7 pm	7 — 7 pm
6.13.4	Do. Perpet. 5 per cent. No. 1 ..	6.13.4	.. .. pm	.. .. pm	.. .. pm	.. .. pm
6.13.4	Do. do	6.13.4	.. .. pm	.. .. pm	.. .. pm	.. .. pm
25	Do. York Extension	10s.	2 — 2½ pm	1 — 1½ pm	1 — 1½ pm	1 — 1½ pm
25	East Lancashire	14	.. ..	.. ..	.. ..	.. ..
50	East Lincolnshire	14	½ dis .. ½ pm	.. .. ½ dis	.. .. ½ dis	.. .. ½ dis
25	Eastern Union	35	.. ..	.. ..	.. ..	.. ..
25	Do. Ipswich and Bury St. Edmund's ..	9	.. ..	.. ..	.. ..	.. ..
25	Do. Ipswich and Bury and Norwich ..	2.10	.. ..	.. ..	.. ..	.. ..
50	Edinburgh and Glasgow	50	73 — 75	73 — 75	71 — 73	69 — 70
10	Do. ½ Shares	10	.. ..	.. ..	.. ..	.. ..
12½	Do. ¼ Shares	12½	17½ — 18½	17½ — 18½	17 — 18	16½ — 17½
25	Do. New ¼ Shares	12½	17½ — 18½	17½ — 18½	17 — 18	16½ — 17½
25	Edinburgh and Northern	10	.. ..	1 dis .. par	1 dis .. par	1 dis .. par
18	Edinburgh and Perth	3	.. ..	.. ..	.. ..	.. ..
50	Ely and Huntingdon	7½	.. .. dis	.. .. dis	.. .. dis	.. .. dis
50	Glasgow, Kilmarnock, & Ayr ..	50	24 — 26 pm	24 — 26 pm	24 — 26 pm	24 — 26 pm
40	Do. New	15	.. ..	.. ..	.. ..	.. ..
12½	Do. ½ Shares (5 per Cent. guaranteed) ..	12½	.. ..	.. ..	.. ..	.. ..
20	Goole, Doncaster, and Sheffield ..	42s.	.. .. ½ dis	.. .. 0½ dis	.. .. 0½ dis	.. .. ½ dis
25	Grand Union (Notting. & Lynn) ..	1½	.. ..	3½ — 4½ pm	3 — 4 pm	3 — 4 pm
50	Great South. & West. (Ireland) ..	25	4 — 5	.. ..	3 — 4 pm	3 — 4 pm
100	Great North of England	100	238 — 237	233 — 235	228 — 232 ex d	227 — 230
40	Do. New	5	55 — 57 pm	54 — 56 pm	55 — 55 pm	53 — 55 pm
30	Do. New	15	16½ — 17½ pm	16½ — 17½ pm	16½ — 17½ pm	16½ — 17½ pm
15	Do. New	14	16½ — 17½ pm	16½ — 17½ pm	16½ — 17½ pm	16½ — 17½ pm
100	Great Western	85	35 — 37 pm	33 — 35 pm	32 — 34 pm	31 — 33 pm
50	Do. ½ Shares	50	13 — 14	11½ — 12½	12½ — 13½	12½ — 13½
25	Do. ¼ Shares	10	13 — 14	11½ — 12½	12½ — 13½	12½ — 13½
20	Do. Fifths	20	14 — 15 pm	13 — 14	13 — 14	12½ — 13½ pm
50	Guildford, Fareham, & Portsmouth ..	5	.. ..	.. ..	.. .. ½ pm	103 — 105 pm
50	Hull and Selby	50	105 — 107	105 — 107	104 — 106 ex d	103 — 105 pm
12½	Do. ½ Shares	12½	8½ — 9½ pm	8½ — 9½ pm	8½ — 9½ pm	8½ — 9½ pm
25	Do. ¼ Shares	25	23½ — 24½ pm	23½ — 24½ pm	23½ — 24½ pm	24½ — 25½ pm
50	Lancaster and Carlisle	45	20 — 22 pm	19 — 21 pm	19 — 21 pm	17 — 19 pm
50	Do. New	5	6½ — 7½ pm	6 — 7 pm	6 — 7 pm	4 — 5 pm
50	Leeds and Bradford	26	49 — 45 pm	41 — 43	42 — 45	41 — 43 pm
20	Leicester and Birmingham	22½	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis
20	Leicester and Bedford	22½	.. .. dis	.. .. 0½ dis	.. .. dis	.. .. dis
20	Leicester, Tamw. Cov., Birm., and Trent Valley Junction ..	42s.	.. .. dis	.. .. ½ dis	.. .. ½ dis	.. .. ½ dis
25	Liverpool, Manchester, and Newcastle Junction ..	2½	.. ..	.. ..	.. ..	.. ..
25	London and Birm. Extension ..	1½	.. ..	.. ..	.. ..	.. ..
Average	London and Blackwall	16.13.4	9 — 9½	8½ — 9	8½ — 8½	8 — 8½
50	Do. New	3	2 — 2½	1½ — 2	1½ — 2	1½ — 1½
50	Do. Extension	5	.. ..	.. ..	.. ..	.. ..
50	London and Brighton	50	66½ — 66½	64½ — 65½	62½ — 63½ ex d	62½ — 63½
50	Do. Consolidated Fifths	13.15.9	13 — 14 pm	13 — 14 pm	13 — 14 pm	11 — 12 pm
Average	London and Croydon	13.15.9	23½ — 24	23 — 23½	23 — 23½	23 — 23½
9	Do. Guaranteed 5 per Cent. ..	9.0.0	0½ — 1½ pm	0½ — 0½ pm	0½ — 1½ pm	0½ — 1½ pm
Average	London and Greenwich	12.15.4	9 — 9½ ex d	9 — 9½	9 — 9½	9 — 9½
Average	Do. Preference or Privilege ..	18.17.2	22 — 24	22 — 24	21 — 23	21 — 23
Stock	London and North Western	100	.. ..	.. ..	205 — 208 ex all	204 — 207
25	Do. Quarters	2	.. ..	.. ..	22 — 24	21 — 23 pm
25	Do. do. New Shares	2	.. ..	.. ..	.. ..	15 — 16 pm
20	Do. Fifths	2	.. ..	.. ..	10 — 21	19 — 21 pm
12½	Do. Eighths G. J.	12½	.. ..	.. ..	.. ..	.. ..
25	Do. New ½ Shares G. J. .....	.. ..	.. ..	.. ..	.. ..	.. ..
40	Do. 40 Shares L and M	6	.. ..	.. ..	.. ..	.. ..

RAILWAY SHARE LIST—continued.

Shares.	Railways.	Paid.	CLOSING PRICES.			
			August 5.	August 12.	August 19.	August 26.
Average	London and South Western...	£41.6.10	75 -- 77	74 -- 76	74 -- 76	74 -- 76
40	Do. New Consol Eighths..	40	17 -- 19 pm	16 -- 18 pm	16 -- 18 pm	16 -- 18 pm
50	Do. New	17½	10½ -- 11½	9 -- 10	9 -- 10	9 -- 10
40	Do. New	14	6 -- 8	6 -- 8	6 -- 8	6 -- 8
25	London and York	2½	½ dis -- ½ pm	½ -- ½ dis	½ -- ½ dis	½ -- ½
25	Do. ¼ Shares	2½	.. ..	.. ..	.. ..	.. ..
50	London, Salisbury, and Yeovil.	24	1½ -- 1½ dis	1½ -- 1½ dis	1½ -- 1½ dis	1½ -- 1½
50	Londonderry and Coleraine..	12½	8 -- 6 dis	7 -- 5 dis	7 -- 5 dis	.. ..
50	Londonderry and Enniskillen	12½	.. ..	.. ..	.. ..	.. ..
25	Lynn and Ely	15	1 -- 3 pm	.. ..	.. ..	.. ..
25	Lynn and Dereham	15	2 -- 1 dis	.. ..	.. ..	.. ..
100	Manchester and Leeds	82	38 -- 42 pm	35 -- 38 pm	30 -- 35 pm	30 -- 35
50	Do. ¼ Shares	38	16 -- 18	16 -- 18	14 -- 16	14 -- 16
25	Do. ½ Shares	2	7½ -- 8½	6 -- 7	6 -- 7	6 -- 7
20	Do. Fifths	3	9 -- 10 pm	8 -- 9 pm	7½ -- 8½ pm	7½ -- 8
6½	Do. Tenthths	6½	3 -- 3½ pm	2½ -- 3½ pm	2½ -- 3 pm	2½ -- 3
20	Do. Extension	42s.	8½ -- 4	8½ -- 3 pm	2½ -- 3 pm	2½ -- 3
49	Manchester and Birmingham	40	87 -- 80	84 -- 86	78 -- 80 ex all	77 -- 76
10	Do. ¼ Shares, A	5	11½ -- 11½	10½ -- 10½	8½ -- 9½	8½ -- 9
10	Do. do. B	5	11½ -- 11½	10½ -- 10½	8½ -- 9½	8½ -- 9
10	Do. do. C	1	10½ -- 10½	9½ -- 9½	8 -- 8	7½ -- 8
20	Manch. Buxton and Matlock	42s.	1½ -- 1½ pm	1½ -- 1½ pm	1½ -- 1½ pm	1½ -- 1
20	Manchester and Southampton	2	.. ..	.. ..	.. ..	.. ..
Stock	Midland	100	145 -- 147 ex d	138 -- 142	138 -- 140	137 -- 136
40	Do. New	24	15 -- 16	12 -- 13 pm	12½ -- 13½ pm	12½ -- 13
Stock	Do. Birmingham and Derby	100	118 -- 120	113 -- 117	112 -- 115	113 -- 117
25	Newcastle & Darlington Junc.	25	18 -- 20 ex d	17 -- 19	17 -- 19 pm	17 -- 19
25	Do. New	1	10½ -- 11½ pm	10 -- 11 pm	10 -- 11 pm	9½ -- 10
25	Newcastle and Berwick	15	14 -- 15	12½ -- 13½	13 -- 14	12½ -- 13
25	Newark, Sheffield and Boston	1½	6½ -- 0½ dis	.. ..	.. ..	.. ..
25	Newmarket and Chesterford.	2.12.0	.. ..	.. ..	.. ..	.. ..
20	Norfolk	20	8 -- 9 pm	7 -- 8 pm	6½ -- 7½ ex d	6 -- 7
10	Do. ¼ Shares	7	4 -- 5	3 -- 4 pm	3 -- 4	3 -- 4
2	Do. Tenthths	2	.. ..	.. ..	.. ..	.. ..
20	Do. Extension	2	par	par	par	par
25	North British	25	15 -- 16 pm	13 -- 14 pm	13 -- 14	13 -- 14
12½	Do. ¼ Shares	11	6½ -- 7 pm	5 -- 5½ pm	5½ -- 6 pm	5½ -- 6
5	Do. Fifths	5	.. ..	.. ..	.. ..	.. ..
12½	Do. Carlisle Extension	1½	2½ -- 2½ pm	2 -- 2½	2 -- 3	2½ -- 3
50	Northern and Eastern	50	75 -- 77	75 -- 77	73 -- 75 ex d	72 -- 74
50	Do. Scrip (issued at 5 disc.)	45	25 -- 27 pm	25 -- 27 pm	23 -- 25	22 -- 24
12½	Do. ¼ Shares	12½	18 -- 19	18 -- 19	18 -- 19	18 -- 19
20	Do. New	1	20 -- 22 pm	20 -- 22 pm	20 -- 22 pm	20 -- 22
50	North Kent and Direct Dover	2½	.. ..	1 -- 0½ dis	.. ..	.. ..
50	North Staffordshire	42s.	4½ -- 4½ pm	3½ -- 3½ pm	3½ -- 3½ pm	3½ -- 3
25	North Wales	3½	.. ..	.. ..	.. ..	.. ..
25	Northampton, Banbury, and Cheltenham	2	.. ..	.. ..	.. ..	.. ..
50	Oxf., Worcester, and Wolverh.	12½	4 -- 3½ dis	4½ -- 4½ dis	4½ -- 4 dis	4½ -- 4
50	Portsmouth Direct	3½	1½ -- 2½ pm	1 -- 1½ pm	1½ -- 1½ pm	1½ -- 1
25	Preston and Wyre	25	36 -- 38	36 -- 37	35½ -- 36½	34½ -- 35
20	Do. ¼ Shares	2½	.. ..	.. ..	.. ..	.. ..
20	Richmond	10	8 -- 9 pm	8 -- 9 pm	8 -- 9 pm	8½ -- 9
25	Scottish Central	12½	6 -- 7 pm	5½ -- 6½ pm	6½ -- 7½ pm	6½ -- 7
25	Do. New	2½	5 -- 6 pm	.. ..	6½ -- 7½ pm	6½ -- 7
25	Scottish Midland	10	3½ -- 2½ dis	3½ -- 2½ dis	3½ -- 2½ dis	3½ -- 2
25	Shrewsbury, Wolverhampton, and Sth Staffordshire Junc.	2½	.. ..	.. ..	.. ..	.. ..
25	Shrewsbury and Birmingham	2½	.. ..	.. ..	.. ..	.. ..
20	Shropshire Union	42s.	1½ dis -- par	1 -- 0½ dis	.. ..	.. ..
50	South Devon	35	3 -- 1 dis	3 -- 1 dis	3 -- 1 dis	3 -- 1
20	South Midland	42s.	.. ..	.. ..	.. ..	.. ..
Average	South Eastern and Dover....	33.2.4	4½ -- 4½	44 -- 45 pm	43 -- 44	42½ -- 43
50	Do. New (issd. at £32) No. 1.	20	7½ -- 8 pm	5½ -- 6½ pm	5 -- 6 pm	5 -- 6
50	Do. New (£33 6s. 6d.) No. 2.	12	6 -- 7	5 -- 6 pm	4½ -- 5½ pm	4½ -- 5
20	Do. New (£30) No. 3.	15	6½ -- 6½ pm	5 -- 6 pm	4 -- 5 pm	4 -- 5
25	Do. New (issd. at £15) No. 4.	2½	.. ..	.. ..	.. ..	.. ..
20	Staines and Richmond	1	.. ..	.. ..	.. ..	.. ..
20	St. Alban's, Hatfield, & Hertford Junction	42s.	.. ..	.. ..	.. ..	.. ..
50	South Wales	5	2½ -- 2½ dis	1½ -- 1½ dis	1 -- 0½ dis	1 -- 0
20	Vale of Neath	2	.. ..	.. ..	.. ..	.. ..
20	Warwickshire and London ..	42s.	.. ..	.. ..	.. ..	.. ..
20	Waterford and Kilkenny	8	6 -- 5 dis	5½ -- 4½ dis	5½ -- 4½ dis	5½ -- 4
20	Waterford, Wexford, Wicklow, and Dublin	1½	.. ..	.. ..	.. ..	.. ..
50	Wexford, Waterford, & Valen.	18	1½ -- 1 dis	1½ -- 1 dis	1½ -- 1 dis	1½ -- 1
20	Welsh Midland	22	1½ -- 1½ dis	1½ -- 1½ dis	1½ -- 1½ dis	1½ -- 1
20	West Riding Union	42s.	3 -- 4 pm	2½ -- 3½ pm	2½ -- 3½ pm	2½ -- 3
50	Wilts, Somerset, & Weymouth	10	4½ -- 3½ dis	5 -- 4 dis	4½ -- 3½ dis	4½ -- 3
20	Wisbech, St. Ives, and Cambridge Junction	2	.. ..	.. ..	.. ..	.. ..
50	York and Carlisle	2½	1½ -- 1½ dis	2½ -- 2 dis	2½ -- 1½ dis	2½ --

POLICY OF THE COMPANIES.

NEW THEORY OF INVESTMENT. BY THE EDITOR.

THE last session of parliament has resulted in the sanction of a greater number of lines of railway than the most sanguine could have anticipated, and this in a great degree, on account of the very agitation, for the reduction of the total, fomented by the panic-mongers. Had the schemers remained unchecked, and had a greater number of companies been organised and in a position to go before parliament, there would, in the usual course of events, have been much fewer companies which would have passed the parliamentary ordeal. Companies which, could they have obtained their capital, would have remained independent and fought it out, as it is termed, were forced to coalesce, partly from necessity and partly from the prudential considerations impressed by the panic. The natural appetite of solicitors, agents, and engineers, for a prolonged parliamentary contest was weakened, and the *amour propre* of projectors and engineers, usually prone to contend for all of a good thing or none, was overcome, and safety was the *mot d'ordre*. Companies amalgamated by twos and threes to make up the 10 per cent. deposit, and so the ranks of warfare and competition were thinned of the combatants. With the greatest difficulty, by investing closely to the last sixpence, by begging and borrowing—we may say, in some cases, by stealing from other projects, the 10 per cent. was got; but under such circumstances that there was often not a pound left to pay the current expenses, much less the parliamentary outlay.

It is very usual for the funds of a company to be invested close up for the parliamentary deposit, but in ordinary times that is not of the least importance, as the money for carrying on the concern is obtained from the company's banker, or from private individuals on the security of the deposit receipt, and a joint and separate note of the directors. This is generally considered a mere form, but this year directors got so frightened by the agitation around them, that they were indisposed to give, and refused to give, a pledge, which, for what they knew, in the progress of the panic, they might be called upon to perform. The bankers also were in some cases more chary, looked upon the deposit receipt with some fear, and upon the security of the directors, in many of the new projects, with some alarm, particularly where the odour of staggism prevailed. It is to be observed that there was also a shyness in lending money to make up the deposits; for in the usual practice this is a transaction which can be readily carried out. A banker, or other capitalist, not only got a high rate of interest, but the security of the deposit receipt, with a very good cover; indeed, in some cases this year, for a loan of £5,000, securities for £10,000 have been deposited. As the deposit can only be drawn out of the hands of the Accountant General by the order of a Court of Equity, whose servant he is, and as the transaction is a fair one, it was felt there was perfect security in the deposit receipt, and an easy and effective remedy for the return of the money. Five per cent. was the rate paid by some large companies to leading bankers and others for money to make up the deposits, at a time when Gurneys were giving 2½ per cent., and in the Stock Exchange 4 per cent. was with difficulty to be got, and no large sum could be placed.

We may break off here to observe that these transactions in advances for deposit and on deposit receipts are among some of the quiet, safe, and lucrative transactions of railway bankers and capitalists. Five per cent. is, we believe, the lowest rate of interest, and the advance must be considered virtually as an advance upon consols or exchequer bills, and consequently on very high terms. The advance, moreover, is only for a short term, for a few months, and the security is a preferable one. Could it be supposed that an attempt were possible to defraud the lender, he has the protection of the Courts of Equity, without whose authority the money cannot be drawn out, and then only on the return of the document which he holds. This branch of business, it will readily be believed, not being understood by the smaller capitalists, has been the monopoly of the bankers and a few others who have turned it to account.

If, however, the Court of Equity is such a safeguard to the lender, it has not this session proved equally protective of the director. This year has disclosed a novel point of practice, for on the motion being made, which is considered one of course, that the A and B Railway Company should be allowed to draw the sum deposited in the hands of the Accountant General, it has been stayed by opposition of dissentient shareholders on the ground of fraud, &c. The threat of this proceeding and the fear of it were not without their influence on directors this year; and altogether, there was what may be called a tightness of money on the part of the depositing companies.

Some companies agreed not to oppose on standing orders, simply because they could not raise the funds to fight the battle. Thus, instead of a great number of bills being thrown out on standing orders, and so being weeded, for every opposed bill is usually considered as lost, and when one of a group goes the others follow, the end was, that a host of bills got through standing orders, and were prepared for committee.

As the time for contest drew near, and as the state of the market grew no better, all parties, urged on by the railway press and by their shareholders, began to yearn for amalgamation. Solicitors negotiated for this object disinterestedly; for, in the impossibility of raising money on the deposit receipt for fighting the battle, they saw that the only way it could be fought, and which they were urged by their board to adopt, was by their finding means on their own credit for the whole warfare. Professional men receiving money on account to pay their disbursements out of pocket, have no objection to give credit for their profits, and indeed desire to do so, as thereby the annoyance of sending in a bill is protracted. But there is a great difference between the course pointed out and being £20,000 or £30,000 out of pocket for the enormous expenses of a severe parliamentary contest. Many professional men had already gone to the length of their tether, not having been paid their previous bills, having waited in order to allow the deposit to be made up.

The concurrence of the Commons parliamentary committees in these amalgamations was readily obtained; in some cases where they had not already taken place, they suggested them, and forced them on, appalled as they were by the prospect of protracted sittings. Here again the meshes were widened rather than narrowed, and the shoal went on towards the Lords full swim.

Where a battle did take place in the Commons, the delay was so great that the victorious party was glad enough to make terms with the conquered, for a safe passage through the Lords; and some of the best bargains were made under these circumstances. The North Kent independent Company, to which the South Eastern would give nothing in the beginning of the session, got, after its defeat in the Commons, £30,000 for withdrawal; the Great Eastern and Western Railway, defeated even on standing orders, got £20,000 from the Newport, Abergavenny, and Hereford Railway Company, for non-molestation in the Lords. Nearly every bill that came into the Lords got through.

The end of all this is that interference with the usual course of business has produced its usual result—mischief. In the ordinary course of affairs we should have had a very severe parliamentary contest, and, comparatively speaking, few bills out of the host would have passed, while many, as last year, would have been hung up like the London and York; whereas we believe in the present year very few bills are in the latter predicament, but most have passed. The fear that an expenditure of £100,000,000 would be sanctioned, armed the panic-mongers, and the result of their labours has been that a larger amount figures as the total. Our own opinion has always been opposed to the panic agitation, not less on account of its impolicy than its injustice. We knew that such ill-advised interference could do no good; it could not redress the real evils, and certainly not the fancied evils, of railway speculation. Those who were not ruined by the mania for premiums have been ruined by the panic mania and the mania for selling at a discount; bona fide undertakings have been delayed, but the stags, although starved, are not slain. The stags have been the least sufferers throughout, and many of them have already the audacity to put forth new schemes.

One circumstance which tends to depreciate the shares of the new companies at the present moment is due to the critical position of affairs. Generally it is considered an advantage to obtain an act of parliament, and shares keep their par price, because the cost of an act is considerable, and the value more than the actual cost to the individual company. Thus, although the London and York act has cost the London and York Company a large sum, it has cost the Direct Northern, the Eastern Counties, and other companies, a large expenditure in opposition. Now, however, when on account of the number of railway acts passed, it is doubtful whether an individual act will be carried into effect, the shares are generally at a discount corresponding to the expenditure for the act, the act not being counted as an asset.

We have already described the manner in which many of the acts of the last session were got through, but it is to be added that, under such circumstances, very indifferent plans received approval. The line which an amalgamation was selected for approval, was not, by virtue of that choice, the best, but it was that of the company which had the most influence or the most money, or that which could best pass the standing orders. Had not the directors of the Rugby, Derby, and Manchester grown faint-hearted, it was perfectly practicable to have obtained an act of parliament for that particular bubble, and the twelve miles of tunnel out of thirty-eight miles of railway might have been ventured on under the auspices of the enterprising engineer who has the merit of the original plan.

In some cases it will be absolutely necessary to revise the plans, and in most cases it will be useful, and a great many of the companies have accordingly determined to go to parliament next year for amended acts. A careful re-survey, in reference to the working plans, will suggest many improvements, by which the cost can be reduced, and in other cases, where expensive deviations have been made to avoid the hostility of particular landowners, it will be possible to obtain assents for another line, which will materially improve the working and reduce the cost.

This plan of re-survey is an old policy adopted by many careful railway managers, and will be followed with advantage in the present crisis. Thus calls will be avoided or kept off until a better knowledge is obtained of the money-market, while the directors will at any time during the year be in a condition to avail themselves of favourable circumstances and begin the works. They will also have so much time before them to make terms with neighbouring companies, either for the sale of their line, for its amalgamation, or for a guaranteed lease, so as to improve their financial position. They will, as a matter of course, obtain an extension of time for carrying on the works.

Thus, in the course of next year many a line, which is in a languishing condition, will have made some definite and advantageous arrangement. Lines like the Shropshire Union, coveted by the Great Western and London and North Western; the East Coast, by the Sheffield and Manchester and Great Northern; the Boston and Birmingham Railway, by the Midlands and the London and North Western; and the Hull, Malton, and Driffield, by the York and North Midland and Hull and Selby—lines like these will have made their arrangements, and passed from the dubious condition of an independent company to the firm financial standing of an ally or dependent of a great and profitable undertaking.

The shareholders will, in most of the new companies, have a year to look about them without incurring any expense, and what are looked upon as bad bargains now, will often turn out very lucrative investments. The demands for money will be suited to the capabilities of the market, and the fears and misrepresentations of those who are expecting the national ruin will be happily disconcerted. Here again is another balk for the panic people; for under no circumstances will an attempt be made to pass beyond the bounds of what they call the available surplus capital, and the mighty evils they prognosticate will never have the chance of existence. It is perfectly true that an enormous amount of expenditure has been authorised, but the yearly and present expenditure will not be aggravated thereby.

Notwithstanding the predictions as to what the railway calls were to have done this year, the diversion of capital from manufactories and tillage has not taken place. The manufacturing interest has suffered, but then it has been from want of a market and from the uncertainties of trade in the beginning of the year, arising from the tariff and corn-law agitation. Railway calls and railway works have neither limited production, nor closed the home and foreign markets; and if the manufacturing interests have suffered, railways have had nothing to do with it. The wages of the factory people, or of the Dorsetshire labourers, have not been unduly raised by railway competition, the prices of provisions have not been raised by railway competition, the supply of cotton-

wool has not been limited by railway competition; nor can it be said, with any degree of truth or seeming, that capital has been diverted from any of the great staples by the extensive progress of railway enterprise in the present year. Till this pressure takes place, till it makes itself felt, interference is surely needless. With sensible men it must be held impolitic to talk of circumscribing the bounds of railway investment, and apportioning and applotting the distribution of the national resources.

We have heard a great deal of ex cathedra teaching on the subject of the surplus capital and surplus earnings of the nation; and some of the learned in those matters have, with great accuracy, ascertained the surplus earnings at £30,000,000 per annum. The love of defining, of setting bounds, is strong in weak minds; they would set bounds to the Godhead and the universe, though, in the moral and physical operations of this world, we find nowhere defined lines. From the use of mapping and planning out the system of nature into such parts as may be more easy for reference, we get to the abuse of treating conventional as real distributions, and attaching real functions to distinctions which are purely fictitious. From marking out the heavens into constellations, it is but a step to the vain science of endowing those divisions with special and peculiar operations. Some are such realists, that they would expect to carry away a bit of the north pole, or indulge themselves with a chance portion of the line. In political economy the same spirit of vain research is attempted, and people attempt to define in figures the distribution of capital as they would attempt to do the thickness of a line, or the diameter of a point. Before one of these lawgivers is allowed to pronounce his dictum on the amount of surplus capital, the least that he could do would be to give us some authentic account of the distribution of capital in the cotton or woollen manufactures for instance. When, however, it is impossible to describe accurately the economical resources of any great staple manufacture, we claim to be allowed some reprieve from dogmatism on surplus resources.

This point may be determined readily enough, that the whole working energy of the people of this country is not employed, and upon this we may exercise ourselves profitably how to increase the amount of effective work. We say nothing at the present moment about the population being properly fed, but we may safely lay down, as a principle, that the whole labour of railways might be done by the present means, in addition to the usual labour of the country. The general truth of this any one's observation will teach him; and with this possibility, why are we forced to assume, on the other hand, that the labour for railways must be taken from that applied to other pursuits?

Labour, it must be remembered, is the base, and whence the labour for railways has been obtained, and is to be obtained, is the true subject for investigation. It is not a matter of money, of pounds, shillings, and pence, and cannot be defined in that way.

Adam Smith, in the second chapter of his second book of the *Wealth of Nations*, has given us the text on which to work, and it is singular that in the present day, on a most important controversy, we should be invaded with the errors which three quarters of a century ago he combated. He says—

“When we compute the quantity of industry which the circulating capital of any society can employ, we must always have regard to those

parts of it only which consist in provisions, materials, and finished work: the other, which consists of money, and which serves only to circulate those three, must always be deducted."

"In order to put industry in motion, three things are requisite—materials to work upon, tools to work with, and the wages or recompense for the sake of which the work is done."

"Money is neither a material to work upon, nor a tool to work with; and though the wages of the workman are commonly paid to him in money, his real revenue, like that of all other men, consists, not in the money, but in the money's worth; not in the metal pieces, but in what can be got for them."

"The quantity of industry which any capital can employ, must evidently be equal to the number of workmen whom it can supply with materials, tools, and a maintenance suitable to the nature of the work."

The proportion for materials and tools is not considerable enough in railway works to require special consideration; the grand question is how workmen can be got and maintained. We have said that it is a false assumption to assert that new workmen must be found because there is new work to be done.

Can the work be performed by greater energy on the part of the existing labourers, or does it absolutely require the employment of a totally new class with the disbursement of new wages? These are the two ways in which the supply of labour for railway purposes may be accounted for; but we are not bound to adopt either, singly or exclusively.

In considering this more minutely than we have hitherto done, we shall first allude to some facts which give reasons for believing that railway construction has not pressed upon the resources of the country, and next the facts which enable us to judge whence the necessary labour may have been partially supplied.

That railway construction has not hitherto diverted capital from staple pursuits, or interfered with the distribution of *effective* labour, to any great extent, we conclude from the following facts:—

1st. The wages of agricultural labour have not been abnormally affected.

2nd. The wages of manufacturing labour have not been abnormally affected.

3rd. The wages of the iron trades have been affected by the increased demand for rails.

4th. The wages of engineers have been affected by the increased demand for railway machinery.

5th. The wages of masons and bricklayers have been partially affected by the increased demands for railway purposes, though it is questionable whether they have been sensibly affected more than they would have been by the increased employment always consequent on a period of good harvests.

6th. The import of foreign corn has not been in excess of the usual deficiency of imports.

7th. The prices of provisions and manufacturing produce have not been influenced by the railways, but only by the ordinary causes of fluctuation.

8th. The price of iron and railway machinery has been raised by the influence of railways.

It results from these considerations that a diversion of capital, or labour, has only taken place so far as concerns ironmen, masons, bricklayers, &c., and their produce; and it appears probable therefore that the means of executing the earthworks, and greater part of the works, have been afforded by the greater energy of labour already provided with the means of subsistence.

In every country though the same instruments of labour exist, they are not all equally employed; some are not employed at all, others are employed, but their labour is of various intensity. Taking the classes devoted to labour in this country and usually considered the available fund of labour, it will be admitted that their labour is exposed to very great fluctuations, and is, in some years, more effective than in others. This effective power bears only a small proportion to the means of subsistence. Adam Smith, indeed, supposes a regular scale and standard, whereby energy increases with the increase of wages, but this is, when applied extensively and practically in this country, an error. In consequence of the system of poor relief, the whole labouring population obtains a subsistence of some kind, work or play, and it is a small difference only which constitutes the alteration from idleness to productive labour. In Dorsetshire, for instance, 2s. or 3s. a week, sometimes less, decides the question between bone-grinding in the union workhouse and labour out of doors, with the indulgence of 7s. a week, a mud hovel, and a tail of grist. We may therefore have a labouring population, but *non constat* that we get any labour out of it. Agricultural labour, moreover, is so irregular in its demands, that for considerable periods there is no employment at all, though at harvest time, and on other occasions, a plethora of labour may be required.

If there be poverty in the country there is also wealth, and there are other classes of the population who, in ordinary times, are idle, living on the resources of their kinsmen and friends, and whom a turn in the scale of wages will induce to apply to labour. In this case also a certain amount of subsistence is already provided, and what is wanted is only a small additional expenditure, by way of stimulus, to make the labour effective. The case frequently occurs of a small tradesman in a country town, with a son or two lounging about him not fond enough of work to work for small wages, but whom a neighbouring railway may tempt from his idle dependence. The contribution of the father, in this case, will require but a small addition from other resources, perhaps a coat from the woollen manufacturer, or a piece of stuff from the cotton spinner, to constitute a railway share, and make productive an expenditure of means which before was barren.

A grand source of labour for new pursuits is, however, to be found in the diminution of labour in old pursuits, consequent on the spirit of improvement whereby labour is economised. This is notably the case in agriculture, where the relative amount of labour employed has for some years experienced a large decrease. At the same time, as is equally well known, the productions of our soil have, by the same spirit of improvement, been very largely increased, and we have, therefore, yearly, a large fund of food, disposable for the subsistence of labour in new pursuits. This is a yearly-increasing fund, more and more each

year, and which is not taken into account by those who estimate the surplus earnings of the country. By bringing waste lands into cultivation, by embanking, draining, soiling, manuring; by access to greater supplies of lime, sand, &c., by railway; by the saving of weight of meat by railway carriage; by better tillage; by the greater health of cattle, the supply of food in this country increases, as it were, at compound interest, on a limited scale, independently of any famine or abundance. This is a fund upon which the railways may fairly claim; an increase in the cotton manufacture should be met by an increased import of provisions from its foreign markets; in the woollen manufacture in the same way; but our home interests have naturally the fairest claim upon our home increase of food.

While our agricultural resources increase, the relative demand for agricultural labour diminishes, as is well shown in the *Occupation Abstract of the Population Returns*, p. 14, where the per centage proportion of each class stands as follows:—

		Agricultural.		Commercial.		Miscellaneous.
1811	- -	35	-	44	-	21
1821	- -	33	-	46	-	21
1831	- -	28	-	42	-	30
1841	- -	22	-	46	-	32

The relative diminution of the agricultural population is indisputably shown; but what increases the disproportion is, that in the returns for 1811-21-31, the per centage given is for families, but in 1841 of individuals.

The total number of persons engaged in agriculture in Great Britain was, in 1841, 1,138,563, showing a decrease on the number of 1831; but, as the commissioners observe, there may be some farm servants not included in the return for 1841, which would give a slight increase in numbers. This, however, is but a trifle, and does not affect the general conclusion, that the produce of the 1,150,000 labourers is, yearly, more than the year before, and more than the demand for the wages of agricultural labour, and is, consequently, an available fund for other pursuits.

Of the above number of 1,150,000 persons, 874,294 are described as agricultural male labourers, above 20 years of age, and 196,640 under 20 years of age; but it must not be supposed that, because they are devoted to agricultural labour, they derive full employment from it, or that such a number is required for agricultural purposes. As is too well known, our agricultural counties have a redundancy of labourers, a fact which the low rate of wages serves also to attest. With many, the whole means of subsistence are the earnings at harvests and other extraordinary occasions, while the winter is spent in the union house. Thus, out of 874,294 agricultural labourers in 1841, a large proportion is available for other pursuits, without interfering with agriculture, and by giving a small additional subsistence beyond that previously enjoyed. A very large proportion of these labourers might be so removed, without the rate of wages being affected; for though in Dorsetshire, for instance, the rate is low, it is not so low as it would be were it not for the poor laws. The workhouse test, however low, serves as a standard below which wages cannot fall, and upon which 2s. or 3s.

a week premium will, with a redundant population, be sufficient to obtain the requisite number of regular labourers.

Besides agricultural labourers, there are also 371,542 other male labourers, above and under 20 years of age, who are far from employing their full energy under usual circumstances.

The number of miners is 193,825, of whom a proportion could readily be spared for railway purposes, without trenching upon the usual demands of trade. At the time of the census in 1841, it is supposed 30,000 miners were out of employ.

Those branches which have been more particularly affected by railway enterprise are small in number, so that a very small demand would be sufficient to cause an increase of wages. The number of persons engaged in the iron manufacture is 29,496; masons, 82,653, are more numerous; but as they are distributed locally, any general demand, as for the new houses of parliament, or for railways, would create a pressure. The number of bricklayers, 39,806, is smaller, and that of brickmakers is 18,363. On all these trades now enumerated, a pressure may take place, and has taken place, though not to a mischievous extent; but as to the market for rough labour being affected, there is no foundation for such an imagination.

The chief manufacturing pursuits of this island are the following, which it may be useful to enumerate, as showing what field there is for the supposed interference :—

	Males above 20.	Total employed.
Textile fabrics* - - - -	344,121	800,246
Mines - - - - -	139,238	193,825
Metals and nails - - - -	36,346	56,620
Smiths - - - - -	85,787	103,869
Machinery and millwork - -	34,898	41,854
Potteries, glass, and bricks -	33,100	50,601
Shoemakers - - - - -	175,769	214,780
Tailors - - - - -	100,080	126,137
Carpenters - - - - -	141,750	162,977
Masons - - - - -	72,934	82,653
Bricklayers and plasterers -	48,591	54,025
Painters, plumbers, and glaziers -	40,750	48,200
Sawyers - - - - -	27,929	29,593
Bakers - - - - -	34,256	44,447
Butchers - - - - -	42,686	48,697
Gardeners - - - - -	48,218	52,028
Seamen and fishermen - - -		288,630

In 1841, the state of the male population above 20, in this island, was as follows :—

PERSONS WHOSE OCCUPATIONS ARE RETURNED.

Agriculture - - - - -	1,215,264
Manufactures - - - - -	2,039,409
Miscellaneous, including labourers, servants, and professional men - - - - -	1,452,937

In 1841, in summer time, the number of almspeople, pensioners,

* Cotton, hose, lace, wool, worsted, silk, flax, linen, &c.

paupers, and beggars, was 53,710 above 20 years of age. The number of paupers in winter makes the total much larger.

We think the figures we have given show that there is a large amount of agricultural and labouring population and of paupers, who are receiving subsistence of some kind from the commonwealth, but who generally do not give their full extent of labour. To extract this dormant labour, a small additional stimulus only would be required, which is to be obtained from the increasing surplus of agricultural produce yearly provided.

In times of depression, while some means of subsistence are provided, the energies of the labouring population are wasted, and nothing is better calculated to promote the national interests than the provision by railway works for utilising the population and keeping up the wealth and strength of the country.

To employ the inactive population in agriculture is out of the question, for the agricultural population is at all times redundant. To employ the inactive population in manufactures is dangerous, because it is only increasing production at a time when the foreign markets are overstocked, and a depreciation has taken place. Even mineral produce is subjected to the same influence, and a fall in prices consequent on a panic will already have thrown many miners out of employment.

Employment in public works does not interfere with the markets, while it increases the fixed capital or working plant of the community, and, at the same time, enlarges the permanent resources of subsistence. Not to speak of harbours, roads, and canals, railways fulfil, in the most eminent degree, all the conditions required. The produce of the country is economised so far as regards the conveyance of cattle, fish, milk, salt, and many other articles; it is increased by the effective application of manures and soils; while, by the facilities given for the conveyance of raw materials and manufactured goods, our artisans are enabled to withstand foreign rivalry, and to extend their markets. The grand question is involved whether in a year of famine and depression, the advancement of the country is to be promoted or neglected.

For the service of these public works we consider that at least 200,000 agricultural labourers are available, and 80,000 miners; and this force can be still further increased in times of distress, which is one reason why railway works can then be carried on at a less price.

Except in the ancillary matters of masonry, brickwork, rails, and engines, the greater part of the labour on railways is rude labour, and a small number of skilled professional men is sufficient to supply the requisite technical skill. Land is not a material of cost in railway construction, it involves only as, Mr. Hudson explains, a transfer of capital. The earth for the embankments is a raw production of the soil, and in most cases stone, lime, and brick earth are excavated on the spot, and require only to be converted. Timber produced from our own forests requires very little labour to fit it for use; and even for the rails and other metal-work, the material is a raw produce of the soil. Thus we have particular advantages for the construction of railways; we have not to exchange the produce of our soil for the materials; and, as we have shown, we have in the food bestowed on unproductive labour, the greater part of the wages for the labour requisite to carry out the railway works.

In the case of railways in Ireland much of this argument will apply,

for if the Irish population is deficient in food, at any rate it is still more deficient in the application of labour; for, with 2,000,000 of labourers, and the work of 750,000, a prodigious extent of working power is left unemployed. To carry out, therefore, an extensive railway system in Ireland, it is not requisite that we should export from this country the subsistence of all the labourers employed, but only such small portion as will be sufficient to give the requisite stimulus, and to turn the balance between idleness and starvation, and labour and competency. That a very little will do this is proved by the rate of wages in that country.

We have thus brought into a more definite form the views of the competency of this country to carry out the railway system, which we rudely sketched in the early volumes of the *Railway Register*. We have been led from a rude basis to the present exact form by the careful observation and investigation of facts, and we believe it will be found that our explanation is most conformable with the actual operation. When it became our duty to investigate the theory of railway investments two years ago, we were led to express our doubts as to the correctness of the panic principles. We heard it said that the railway expenditure must absorb a large amount of capital, and divert the working capital and resources of the country from every branch of industry. On these assumptions the extension of the railway system was deprecated, and legislative restrictions were warmly advocated.

These propositions did not gain our assent, because they were not conformable with the experience of facts. The expenditure for railways had gone on increasing from £1,000,000 a year to £20,000,000 a year, and yet no pressure had taken place on other branches of industry. Had there been the assumed pressure or diversion of capital, wages and prices in the cotton and woollen manufactures must have risen to an appreciable extent, whereas the changes of price that did take place, were only those always consequent on the change from famine to plenty. Besides this index of no disturbing influence having been exerted by railways, evidence was obtained that the great staples of manufacture, far from having suffered from a diminution in the number of labourers, had actually, during the period of greatest railway activity, increased the number of their labourers. In the latter end of last year Mr. Leonard Horner officially reported that in his factory district of Lancashire, the North Riding, and part of the West Riding, the increase had been, between February 1839 and 1845, 529 factories, 10,041 horse power, and 50,522 persons employed. The power looms had increased from 63,861, in 1835, to 142,940, in 1845. The increase, Mr. Horner says, had all taken place since November, 1842, when the revival of trade begun.

The careful observation of the whole of the facts enabled us to pronounce that the railway system did not press on the resources of the country, and did not cause a diversion of capital; but although we stated that the construction was carried on from the economy of previously existing means of subsistence, we did not attempt to define in what manner.

While we felt compelled to reject the doctrines of the panic party, and their assumptions as to the surplus capital of the country and its limit of £30,000,000, we were not prepared, on the other hand, to

admit the equally vague calculation of the resources of the country, founded on the statistics of the national debt, which were similarly based on what Adam Smith has denounced as a misstatement of the operations of money.

To account for the great railway operations by the change from famine to abundance, and the release of a number of labourers from the unions, was evidently incompatible with the statistics of the poor law commissioners. Though the number of able-bodied paupers relieved had greatly diminished, still to account for the construction of railways from economy on the poor rates appeared an impossible task, when the saving on the rates was restricted to millions, and the expenditure on railways extended to tens of millions. While admitting the concurrence of this cause, we rejected it as the *causa causans*, or grand cause. We should observe, by the bye, that one feature in the poor law operation has been neglected, and that is, that at all times there is a considerable extent of able-bodied relief in the winter, and particularly to the very navigators working on railways, whose improvident habits deprive them of all means in winter. As there is a large number of the population dependent on the unions in winter, so the saving which is experienced in the diminution of the poor rates is limited to able-bodied labourers, who, in times of severe distress, obtain relief in the summer.

Having pointed out the yearly increase of the produce of the country, the diminution of the demand for labour in old pursuits, and the economy of produce effected by the railways, we laid the foundation for our present investigation, in which we have shown that the means for executing the railway system are derived from the more efficient exertion of the labouring classes employed in rude labour, and which takes place under the stimulus of increased wages obtained from the surplus production of the country.

The limit to this operation can only be when the full powers have been exerted of 1,150,000 agricultural labourers, 370,000 other labourers, and 200,000 miners, and when the surplus produce is no longer sufficient to produce a distinction between agrarian inanition, poor-law inanition, and something a degree better. What the real demand for capital for railway purposes may be under these circumstances it is impossible for us to tell, and we shall not pretend to calculate the amount or the proportion, but it must evidently enter only for a small proportion in the apparent expenditure of railways, and make the greater part of the apparent expenditure a mere transfer of capital. We may also say this, that the means of the country for railway construction will be equally efficient in famine as in abundance, as the stimulus to be given to utilise labour is still restricted to the amount necessary to turn the scale of the pauperism of the agricultural classes.

To carry out the operations of the aggregation and distribution of these fragments of capital, to collect the mites of the farmers and shopkeepers, the fragments of rents and profits, and apply them in various parts of the country for the sustenance of the navigators, is a complex and delicate operation, and on that ground, if on no other, we deprecate interference with the joint-stock system, which has hitherto proved an effective and useful channel. We conceive that the right course to be followed is to encourage the present operations of public works, and to uphold joint-stock companies as the fitting instruments.

THE NORTHERN COUNTIES UNION RAILWAY.

THIS railway company, better known to our readers as the Leeds and Carlisle and Yorkshire and Glasgow Union, is one of those for which an act has been granted in the past session, and consolidates three originally distinct companies which came before the public in 1845, viz.—the Leeds and Carlisle, the Yorkshire and Glasgow Union, and the York and Carlisle.

The two first amalgamated in the early stage of their proceedings, and went to parliament under the title of the Yorkshire and Glasgow Union; the only competing line was the York and Carlisle, and at the suggestion of Lord Palmerston (chairman of the committee of the House of Commons, to which they were referred) it was mutually arranged that this Company should be consolidated with the Yorkshire and Glasgow; and leave having been given by the house to amalgamate them, the bill went through both houses and obtained the royal assent on the 27th July last, under the title of the Northern Counties Union Railway Act.

The main line is sixty-nine miles long, commencing at Thirsk on the Great North of England Railway, and passing by the valley of the Ure to Bedale and Leyburn, through a very rich pastoral country, and thence by Hawes and Kirkby Stephen, to its terminus on the Lancaster and Carlisle Railway at Clifton. There is a short branch from Exilby to Wath of seven miles long, for the purpose of connecting the line by the Leeds and Thirsk Railway directly with Leeds; it has also a cross line of about fifty miles from Tebay on the Lancaster and Carlisle to Bishop Auckland, where it has a junction with the Bishop Auckland and Weardale, and by it a communication with the numerous lines in the county of Durham.

By following the course of the Northern Counties Union Railway on the map, it will be seen, that its name is most appropriate, immediately linking together as this railway will, the whole of the northern counties.

At present, the country between the Leeds and Manchester on the south, and the Newcastle and Carlisle on the north (a distance of ninety-two miles), is without any railway accommodation. This Company's main line passes just midway. We conceive it will be of great local importance, as—in addition to the benefit it will create to agriculture, by giving markets for the growth of the soil, which at present is entirely excluded in consequence of the heavy cost of transit—it will open up a valuable mineral district, in which are found rich beds of iron and limestone, existing in great abundance in the locality of the line. The latter especially is worthy of particular notice. It was stated before the committee of the house, that “the mountain lime is so pure as, upon analysis, to yield 99 parts out of 100 of pure carbonate of lime. It can be burnt by coal found upon the spot, at so cheap a rate as to be delivered on the rails at 3s. 6d. per ton of burnt lime, and to be transmitted on ordinary railway charges to the distance of fifty miles, and be delivered there at a cost not exceeding 7s. 8d. per ton, affording thereby a means of agricultural improvement to a very wide district beyond the projected line.”

Among the other natural productions are extensive and valuable stone quarries, from which flags can be raised of any size, even of ten or twenty yards square. A quantity of these are at present carted to the Great North of England Railway, for export at Thirsk.

It is not, however, the local traffic expected on the line we should consider most significant. We were led to a consideration of the undertaking from the appearance of its important national position, as forming a link between the lines north and south, from London and the Eastern and Midland Counties to Carlisle and Glasgow. It might be in the recollection of some of our readers, that a few years ago a government commission was appointed, to determine on the best high road through Yorkshire and Cumberland into Scotland, and, we are informed, that the line adopted by this Company was considered the best and most practicable. The days, however, of high roads and turnpikes were being rapidly superseded by those of locomotion, and the report was not acted on.

High credit is reflected on the Company's engineer, Mr. Hamilton H. Fulton, for the ability displayed in laying out the line, which he has done without a tunnel, and with easy gradients throughout, the worst being 1 in 100, and with no viaduct worth mentioning.

The branch line from Tebay to Bishop Auckland traverses a district also abounding with iron stone, and adjoins the celebrated coal field of Durham. There are at present some heavy works on this line.

The first annual meeting of the Company took place on the 25th of August, at the London Tavern, Bishopsgate-street, and was attended by a large and very influential body of proprietors—William Beresford, Esq., M.P., the chairman of the Company, presided. The report laid before the meeting was received with much satisfaction. By the following extract from it will be seen the policy on which the directors intend to act:—

“The directors, after a careful consideration of the undertaking, are fully convinced of the importance of the communications the line will establish, and the resources of the extensive districts through which it passes, but have come to the resolution, that it would not be expedient to commence at present a heavy outlay on the whole line simultaneously; but that it would be more prudent to re-survey the expensive portions of it, and to apply to parliament next session for an amended bill, by which the line may be constructed at a considerably reduced estimate. The cost of construction also will be reduced, by arrangements which have been entered into between this Company and the Liverpool, Manchester, and Newcastle-upon-Tyne Railway Company, for making a portion of the line in Wensleydale jointly with that Company. If, therefore, these arrangements are carried out, the amount of each share will consequently be reduced in the amended bill. The directors, therefore, request a general authority from this meeting to go to parliament next session, for power to make all necessary modifications of the line, and to treat with other companies if deemed expedient, subject, of course, to the approval of a future general meeting.”

We believe the wisdom and prudence of the directors will augur well for the interests of the shareholders. The great evil of railway companies has hitherto been the extravagant expenditure on the works, which, of course, diminishes the return on the capital.

In the straightforward and able address of the chairman he stated, that the directors "do not intend to make any call whatever till the next general meeting, of which due notice will be given, so that you will have a voice in that, whenever it may be, and sufficiently due notice."

The net funds of the Company amount to £71,195.

We publish in another place the resolutions come to at the meeting.

ITALIAN RAILWAYS.

A COMMISSION has been formed at Rome, charged with the management of railway affairs. It is constituted partly of clerical and partly of lay members. The contemplated visit of the Grand Duke of Tuscany was chiefly meant to induce the papal government to let a line pass through the Maremme, but such a measure, it was considered, might have benefited the Tuscans rather than the Romans. In three days after the formation of the commission, there were nineteen projects for railway lines before the commission. The most popular scheme is that of Prince Conti, which is a national Italian work. It would require 25,000,000 of scudi; each share to be of 100 scudi, payable in five years—a sum moderate enough to enable the humbler classes to participate in the undertaking. The maximum number of shares to be possessed by one individual would be fixed—a plan which shows the want of practical knowledge of the proposers.

The engineer, Potenti, author of the Railway Map, gives, as an appendix to the latter, the following data referring to the Italian railway traffic. The whole extent of railway in Italy amounts to 234 kilometers, or 155 English miles. They are the following:—

1. From Naples to Portici, opened the 13th of October, 1839; length, 7,500 meters ($4\frac{1}{2}$ miles).
2. From Milan to Monza, opened the 17th of August, 1840; length, 14,000 meters (9 miles).
3. From Padua to the bridge on the Lagoons, opened the 13th of December, 1842; length, 32,940 meters (20 miles).
4. From Naples to Caserta, opened the 11th of December, 1843; length, 22,220 meters (14 miles).
5. From Leghorn to Pisa, opened the 21st of February, 1844; length, 20,000 meters ($12\frac{1}{2}$ miles).
6. From la Torre de la Nonziata to Nocera, opened the 1st of May, 1844; length, 15,987 meters (10 miles).
7. From Caserta to Capua, opened the 25th of May, 1844; length, 15,554 meters (10 miles).
8. From Portici to Castellamare, opened the 1st of August, 1844; length, 18,865 meters (11 miles).
9. From Pisa to Pontedera, opened the 19th of November, 1845; length, 21,000 meters (13 miles).
10. From the great canal at Venice to the bridge over the Lagoons, opened the 12th of January, 1846; length, 500 meters.
11. The bridge over the Lagoons, opened the 12th of January, 1846; length, 3,603 meters.

12. From Padua to Vicenza, opened the 12th of January, 1846; length, 30,245 meters (19 miles).

13. From Milan to Treviglio, opened the 15th of February, 1846; length, 31,674 meters (20 miles).—Total, 234,088 meters opened. Nos. 1, 4, 6, 7, 8, are in Naples; Nos. 5 and 9 in Tuscany; the others in Lombardy.

It will be seen, that the length of railway in Naples is 80,126 meters, or 50 miles. The lines pay well, and the railway system is gradually extending; but to attain its full development, the through communication with the Roman and Tuscan territories must be carried out. The Portici and Caserta lines are chiefly pleasure lines, the greatest length of railway in Naples being from Naples to Capua, about 24 miles. The English, as yet, have had no share in Neapolitan railways, which have fallen into the hands of the French. This is to be regretted, as the credit of the Neapolitan government stands high, and the population and resources of the country are large. The field is, however, so extensive, that we may yet hope to get a fair share of it.

The length of line in Tuscany is 41,000 meters, or 25 miles. This is an exceedingly well paying line, constructed by Mr. Stephenson, and in which the English are large holders. The Italian and Austrian Company have also a concession here, under Mr. Jackson's auspices. The Tuscan line, running from Leghorn to Pisa and Pontedera, has a splendid traffic; and it will be a grand trunk for the traffic of a populous and thriving state.

The Lombard lines, 112,962 meters, or 70 miles long, belong to the Grand Lombardo Venetian, or Milan and Venice Railway, on which occurs that remarkable work, the bridge over the Lagoons to Venice, 3,603 meters, or $2\frac{1}{4}$ miles in length. The effect of this undertaking must be most beneficial to Venice, Milan, and to Lombardy generally, the resources of which places are of ancient fame. The shares in the Company are, we believe, chiefly in the hands of Vienna capitalists, and they are quoted in the share lists of that capital.

We may observe, that the shares of the Naples Railway are quoted on the Paris Bourse, which is the greatest market for Neapolitan (Rothschild's) bonds and other securities of that country.

The undertaking, however, on which the welfare of Italy chiefly depends, is the railway between Florence and Naples, which will unite the country from north to south. The antiquated prejudices of the late Pope opposed this enterprise, which was advocated by the Baron de Goldsmid, the Duke de Torlonia, and other great European capitalists. At last, the obstacle is removed, and one of the first efforts of the Roman railway department will be directed to this undertaking.

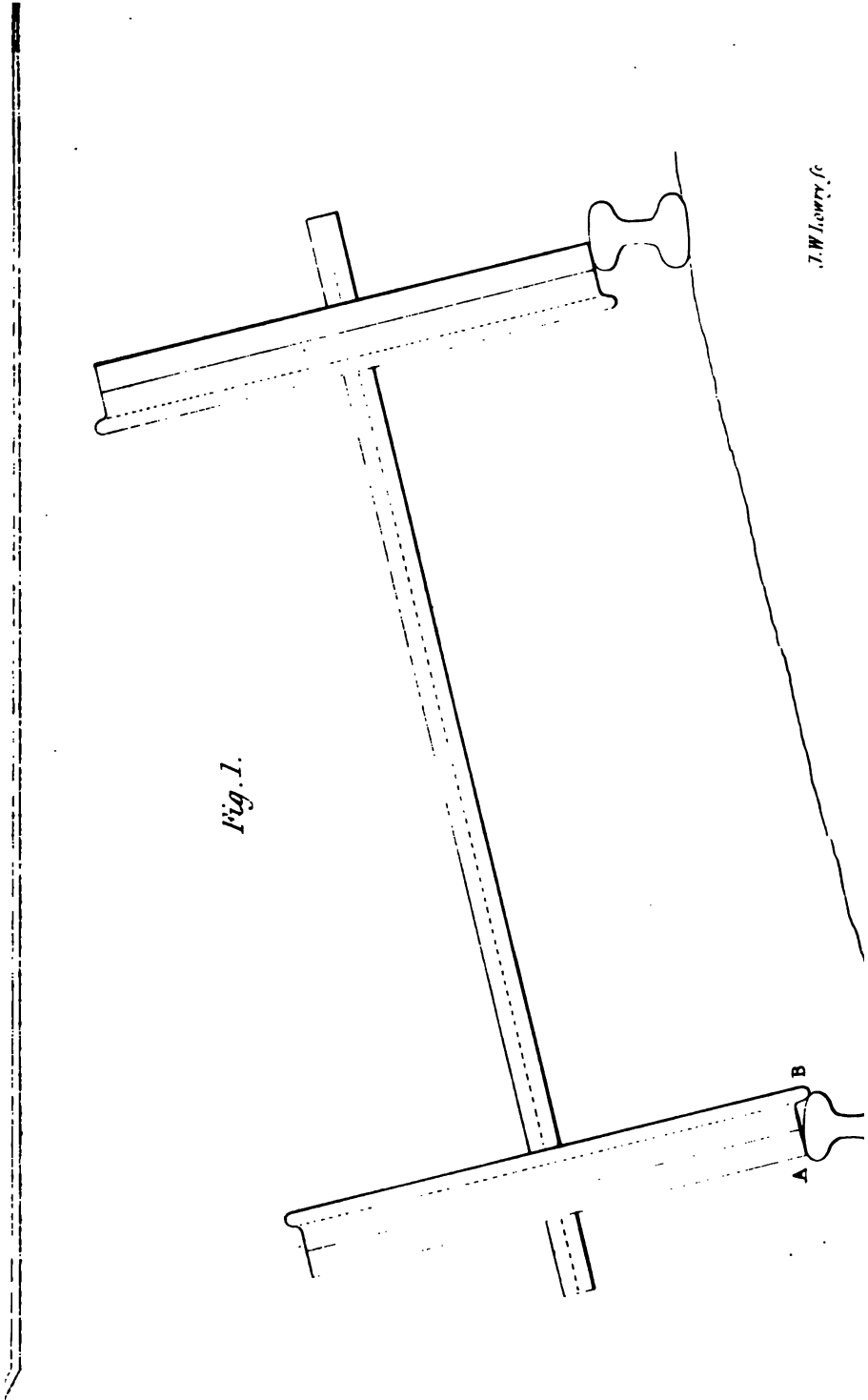


Fig. 1.

J.W. Lowry, Jr.

B

A

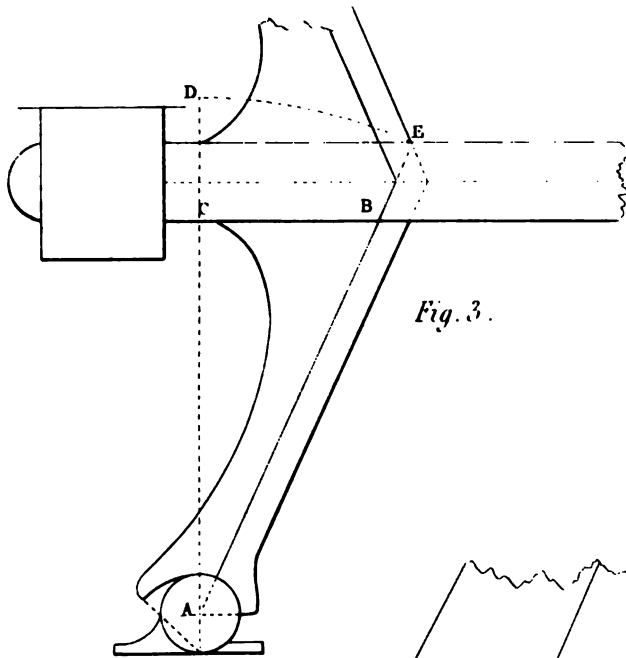


Fig. 3.

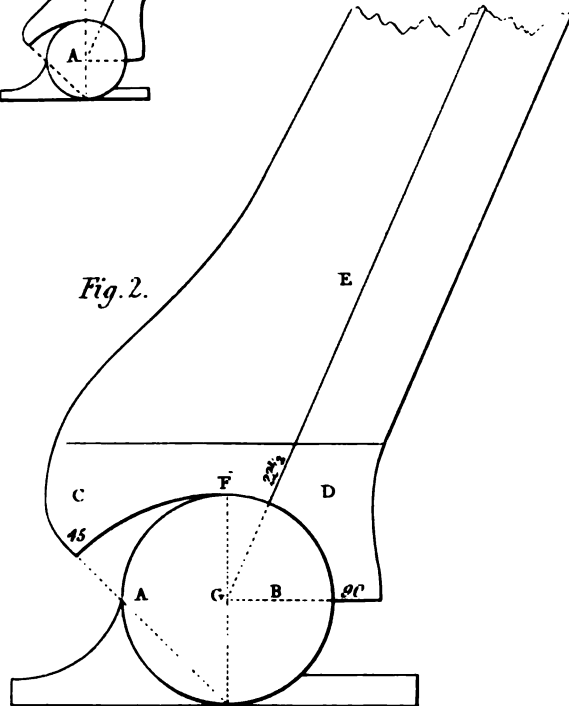


Fig. 2.

Fig. 6.

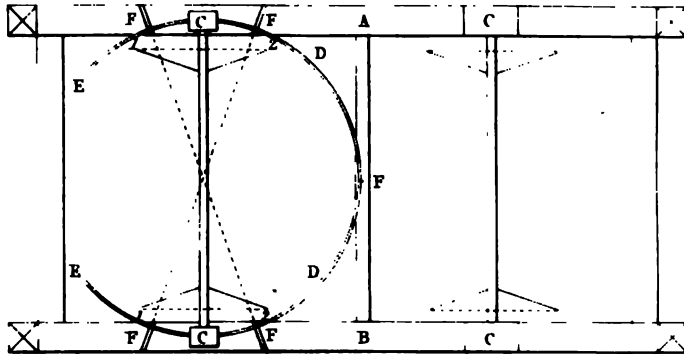
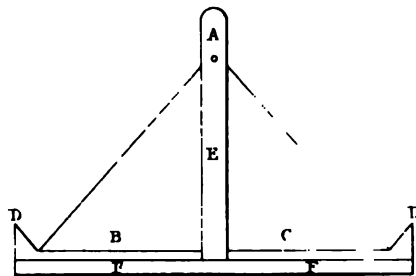


Fig. 7.



GREENHOW'S GEOMETRICAL RAILWAY,

WITH THREE PLATES.

OUR attention has been called to a pamphlet, entitled *An Exposition of the Danger and Deficiencies of the Present Mode of Railway Construction, with Suggestions for its Improvement*, by Mr. C. H. Greenhow, who is the patentee of a new mode of railway construction, which he calls the geometrical. We will allow Mr. G. to speak for himself. He commences by pointing out the deficient manner in which the wheel is applied to the rail in the present system; he says, "The relationship between the running surface of the rail, and the tyre of the wheel, has been allowed to remain much in the same state as it was many years ago in the north of England, when, moving only at moderate speed, and before the introduction of locomotive power, the coal was thus conveyed from the mines to the place of shipment; few modifications having been attempted, all resting apparently quite satisfied that it is the *ne plus ultra* of perfection, or ignorant that on the true action between those two parts entirely depends the perfect working of the whole machine.

"Take any piece of mechanism, simple or complicated, and disarrange its parts, so that they do not act in unison with each other, what will be the consequence? The machine will cease to perform its functions, or the ill-according parts will destroy each other.

"So it is with railways, and the carriages intended to run on them. It is imperatively necessary that a perfect adjustment should exist between the different parts, not only as regards their close accordance one to the other in shape, but also in weight and dimensions. And I may add, until such precision is introduced, at all times will they be obnoxious to the disgraceful accidents which are now so frequently occurring.

"I shall now proceed to point out why the mode at present pursued, of applying the wheel to the rail, I consider to be extremely dangerous, when the speed exceeds a very moderate limit.

"When a body is moving at very high velocity, it then, to all intents and purposes, becomes a projectile, and is subject to the laws attending projectiles; therefore, in obedience to the influence of the impellant force, its tendency is to proceed in a directly straight line; and in an exact ratio to the increase of the distance or space passed over, in a given portion of time, does this tendency predominate; consequently, the difficulty and danger of diverting it increases in similar ratio to the speed.

"Now, the rails being the directors of the course to be taken by the locomotive and vehicles attached to it, it becomes necessary that any deviation from a straight line should not be sufficient to destroy the adjustment between the wheel and the running surface of the rail, because, should it do so, the moving body, in obedience to the vehemence of the impulse, the resistance to its straightforward progress being diminished, will pass off the rails, doing great mischief before its energy can be overcome. It having been proved that the greater the speed, so is this tendency to move in a directly straight line strengthened, the

consequence is, curves which at moderate speed may be passed with safety, become highly dangerous when the velocity is great. A similar effect takes place from any other cause which may occur to disturb or divert the course of the moving body, such as by a sinking of the permanent way, the sustaining point on that side being lower than the other, the centre of gravity inclines to the low side in a degree equal to the angle formed by the relative level of the rails, imparting to the body an inclination to move in that direction in an exactly similar ratio, whilst at the same time the wheel on the lower rail, not being able to adjust itself to the running surface, rests on the extreme edge of the tyre, diminishing the resistance offered by the flange to lateral displacement, in an exact ratio to the increase of the angle formed between the running surface of the rail and the face of the wheel tyre as explained by angle A in the accompanying figure 1. Great part of the weight also rests on the extreme edge of the flange at B; it therefore follows, that the points sustaining the weight being at unequal distances from their axis, are revolving at different velocities, causing great friction and destruction between the parts in contact, and giving the wheel an inclination to rise over the rail, and so allow the carriage to run off the line. A loose chair, or any inequality in the running surface, will have a like effect.

“Another cause which may occur to divert this tendency to move in directly straight lines, and if sufficiently strong will throw the carriage off the rails, is the resilience occasioned by the elasticity of the rails, causing the wheels to rebound, when, on account of the mal-adjustment of the angular flange with the edge of the rail, a space being obliged to be left between them, allowing a play of above an inch; the resilient action, therefore, causes a rebound from one side to the other, the motion then becomes a compound of the original straightforward effort and the direction of the resilience, partaking of each in exact proportion to their relative force, the momentum resisting the resilience until the latter, gaining strength from the accumulated force added by each succeeding blow, is enabled to divert its course sufficiently to overcome the slight resistance offered by the flange of the wheel, its adjustment to the rail being destroyed by the rising of the opposite side, as I have before shown. This I consider to be the cause of a greater part of the accidents which occur, and which, although inquired into by the officers appointed by government, still remain unaccounted for in a satisfactory manner to any one, save the directors of the lines on which they occur.”

Mr. G. next proceeds to point out the manner in which the deficiencies above referred to may be overcome. “The remedy I propose is to have a rail with a cylindrical or convex running surface, and the tyre of the wheel concaved in such a manner as to adjust itself in every position to the surface of the rail on which it may rest. By this means a correct action between them will be secured under all ordinary circumstances, because the concave tyre fitting the rail in every position, and adjusting itself to suit all the altering circumstances, still offers an equal resistance on any contingency occurring to divert the impulse to move in a directly straight line. It will be at once apparent to any one accustomed to look mathematically at cause and effect, that although the concave tyre on the convex or cylindrical rail will be equally fitted

to it on whatever part of the circumference it may rest, yet, on the spoke being thrown beyond the perpendicular, should lateral pressure be applied in that direction, the concave will withdraw from the convex, unless the pressure is communicated to the concave within the point on the convex surface perpendicular to its centre; for should the pressure fall without that point, there will be no resistance to its moving off at a tangent; therefore, in order to afford an effectual security to the wheel from running off the rail in a lateral direction, it will be necessary to give the concavity of the tyre a peculiar formation, and to arrange the spokes of the wheel in such a manner as to cause the weight communicated through them to the tyre to fall within the point on the rail's surface perpendicular to its centre, by which means the tyre within that point on the opposite wheel being elevated, will become the fulcrum on which the carriage turns; therefore, that portion of the concave tyre ought to be the segment of a circle of similar radius to the circumference of the rail, extending 90 degrees within the point on the rail's surface perpendicular to its centre, whilst the spokes of the wheel being placed with an inclination within the perpendicular of $22\frac{1}{2}$ degrees, measured from the centre of the rail, as seen in figure 2, *A B* being a transverse section of the rail, and *C D* a section of a portion of the wheel tyre resting upon it, and *E* the direction taken by the spoke towards the axis, which will cause the weight to be communicated to the tyre within the point on the surface of the rail perpendicular to its centre *G*; and so long as this is the case a firm resistance will be offered to any attempt at lateral displacement, whilst, at the same time, because the length of the spoke, see figure 3, from the rail *A* to the axis of the wheel *B* will be greater than if it had been placed perpendicular, and met the axletree at *C*; therefore, on the elevation of the opposite side, either by the resilient action in rapid travelling. By sinking of the permanent way, or other cause, the spoke of the lower wheel is brought more into the perpendicular in a precise ratio to the angle of elevation, and, therefore, increases the distance between the surface of the rail and the point in the axletree perpendicular to it. By this means the gravitation of the whole body is brought in opposition to the force tending to raise up and throw it off the rail, until the angle of elevation is equal to the angle of inclination given to the spoke; at the same time it will firmly secure the wheel to the rail until the supporting spoke is thrown beyond the perpendicular, whilst the perfect adjustment of the concave tyre to the convex rail will assure its progressing safely along during the whole of this process."

Should the result prove to be as Mr. G. sets forth, his system will be a great desideratum in railway construction, many unsuccessful attempts having been made to overcome the violent action of the angular flange on the edge of the rail, the comparatively recent introduction of the conical tyre having signally failed in its object, the continued slipping, and uneven action on the rails peculiar to this shape of tyre, materially increasing the friction, and consequently the wear and tear, therefore it will be well worth the while of railway companies to institute an inquiry into the merits of the invention. Mr. G. next points out the perfect aptitude of the concave tyre to adjust itself to the round rail in passing curves,

“As the tyre of the wheel is at present constructed, the extremities of the flange revolve at a greater speed than that part of the tyre which rests on the rail; and in advancing round a curve, the flange coming first in contact has to keep the carriage moving in the direction taken by the rail; therefore it is brought into violent contact with the edge of the rail, causing great increase of friction and destruction, both to rail and wheel; whilst the slightest inequality in the edge of the rails, or an imperfect connection between them and the chairs, by affording a fulcrum for the flange to act upon, will certainly cause it to rise on the rails, and thus, the resistance ceasing, the carriage must run off the line. Now quite a different action in passing a curve to that I have just described, takes place between a convex rail and concave wheel tyre, formed as I propose; the resistance is not offered by the extremity, as in a flanged wheel, but the force is applied to the tyre in the direction of the spoke, communicating the pressure within the point on the vertex of the rail, as many degrees as are in the angle of inclination given to the spoke; thus the whole of the 90 degrees contained by that part of the tyre, within the point named, equally press on the rail, the action being similar to that of a ball and socket joint, at the same time the way in which the resistance is communicated through the inclined spoke, produces the same result which is now obtained by raising the outer rail in a curve. During the action just described between the concave tyre and the convex rail, the friction is not materially increased, beyond what it is when progressing along a straight line, nor is there much danger to be apprehended from inequalities in the surface, or badly fitted chairs, the inclination of the spoke preventing the carriage from rising in obedience to the resilient action created by them.”

Mr. G. proposes to assist in this operation, by giving what he calls an uncontrolled locking action to one pair of the wheels of each carriage. “so that they may be enabled, merely by the resistance between the rails, to alter the parallel position of the axletrees to that of a similar angle to the one formed by the curve, self-acting, so that they will at all times adjust themselves to that angle, necessary to enable the carriage to pass round the curve with ease and safety. This I propose to effect in the manner following:—See figure 6—*A B* is the underside of a wooden frame, to which the bearings *C* in which the axletrees run are secured; one pair are not bolted to the frame, but firmly secured to an iron bar of sufficient strength, bent to form an exact semicircle between the centres of the holes in which the axletree runs, *D D*, and continued each way to *E E*. This bar or bow travels in strong eyes *F F F F*, secured to the frame, always keeping the bearing in its position under the frame, at the same time allowing a free movement between the eyes on each side so as to form an angle either way, to the extent of the dotted lines, 1, 2, as the curve may require.” Other points of Mr. G.’s invention may be seen by the pamphlet. We will give one more extract, where he enters into the projectile law, which he considers is brought into operation during rapid travelling. When one body is sustaining another which is moving at great speed, the weight borne by the supporting one is diminished in an exact ratio to the increase of the distance passed over by the moving body in one second of time, because the force of the gravitation within that space o

time being about equal to 16 feet, the weight to be sustained will diminish as that quantity is to the number of feet passed over by the body in motion, in the like time; therefore, when the rate of speed is at fifty miles an hour, the gravitation, or more properly speaking, the pressure of the one body upon the other, will be reduced in the proportion which 16 bears to $73\frac{1}{2}$, or to less than one quarter of what it would be were the body moving only at 16 feet per second; therefore, a locomotive weighing 20 tons will only require a support equal to about 4 tons 7 cwt. when progressing along the rail at fifty miles an hour; consequently, the friction between the moving parts does not increase in the same ratio with the velocity, because the force or violence of the contact diminishes as described. Nevertheless, in order to gain the advantage of the above law, it is absolutely necessary that the wheels should run on the rails evenly, and without impediment, because any check given to the motion allows the gravitation to act to its full extent, and will have the effect of producing a succession of heavy blows with the wheels upon the rails, whilst the resilience created by the blows having a diminished amount of gravity to contend with will be more prone to throw the wheels off the rails, the resistance to the resilient action increasing or diminishing precisely with the gravitation; consequently, the amount of danger depends upon the difference between the force of the contact and the power of the gravitation to resist the resilience occasioned by it. Now, I have shown that the power of gravitation diminishes as the speed increases, whilst the projectile force gains the weight or power lost by the gravity; consequently, the danger from the like impediment or obstruction increases with the velocity as the square of the distance in feet passed over in one second is to the square of the gravitation in the like space of time; therefore, the danger to be apprehended from any occurrence which may divert the tendency to proceed in a directly straight line, when moving at fifty miles an hour, or $73\frac{1}{2}$ feet per second, is a fraction more than twenty times what it is when moving only at 16 feet per second, and at 100 miles an hour would be eighty-three times more."

He proposes a peculiar manner of suspending the carriages, to create a certain reaction always in readiness to counteract the ill effect arising from the above law." This I propose to effect by putting the oscillation of the pendulum counter the resilience, in such a manner, that when resilience is created by any occurrence, the impetus given by it to the gravitation towards one side may immediately be resisted by the oscillation of the pendulum in the same direction; the tendency to oscillate being imparted by the same impulse, will therefore at all times have a similar force to the resilience, whilst the vibration throwing downwards, but being restrained, as I will immediately explain, puts the whole force of its oscillation counter the attempt to rebound imparted by the resilience. Let BC in figure 7, be a pendulum suspended at A , on the perpendicular E , standing on the base F , and restrained from vibrating by chains on each side secured to DD on either side, being elevated, the pendulum would not oscillate, because it is restrained at D , therefore it would become suspended between the points A and D on the elevating side, the weight increasing at D , exactly as the elevation, being so much removed from A ; at the same time the chain on the lower side D would be slackened, no weight resting at that

point." A carriage suspended in this manner, Mr. G. supposes, will at all times resist any attempt to disturb its equilibrium, and consequently maintain its position on the rails, let the speed be increased even to the very utmost the tractive power can obtain.

RESILIENT ATMOSPHERIC RAILWAY TUBE,

BY CLARKE AND VARLEY.

The distinguishing feature of the new patent is the resiliency or elasticity of the *tube itself*, which is made of malleable metal, and by *its own spring* or lateral pressure, keeps a continuous slit or aperture along its upper surface constantly closed. The "longitudinal valve" of previous systems is here virtually done away with altogether, and with it all its complication of machinery, composition, wear and tear, liability to derangement, &c. The tubes are formed as perfect as the cylinder of a steam-engine, and the piston moves *clean*, without the intervention of any lining of viscous matter whatever. The communication between the carriage and the piston is effected by means of a connecting plate, of less than a quarter of an inch in thickness, which runs in the slit.

The elasticity of the tube is, as we said before, the distinguishing feature of the invention (the minor details we will briefly consider further on); and in order to render this elasticity effective, a new class of gearing was necessary for the proper mounting and suspension of the tube—a gearing which should secure solidity and fixedness, and yet not interfere with the elasticity of the tube. This will be easiest explained by the following diagram, A, which shows a transverse section of the main, with standards complete for supporting and securing the same to the sleepers, A A. The two top edges of the tube are turned up about 1 inch nearly at right angles, and riveted to two valve pieces, A a A a. The standards are curved arms, bolted at the top to the valve pieces of the tube, and at the bottom are secured to a cast-iron saddle. The arms are 2 inches wide and $\frac{1}{4}$ inch thick; one of these arms is curved to one-fourth of the circumference of the tube, and then bolted firmly to the cast-iron saddle, I I. The other arm is curved half round the tube, and vibrates on a strong pin fixed in the cast-iron saddle under the centre of the tube. They are bolted to the top valve pieces by two collar bolts, firmly riveted to the valve pieces, one on each side. By these means the tube is firmly suspended from the top. One side of the valve piece is rigidly fixed and forms a longitudinal valve seat; the other side of the tube forms the longitudinal valve, *the vibrating arm allowing it to open and shut*. The cast-iron saddle is secured to the sleepers by bolts or coach-screws in the usual way. Diagrams B and C exhibit enlarged sections of the valve, the former *with* the connecting plate, and the latter open. Figure D shows the slit with its *gradually-diminishing* surface during the passage of the connecting plate, the cupped leather of the piston being always in advance of the opening.

The tube is made in sections of 12 feet in length; the standards are 6 feet apart, and placed 3 feet from either end of the tube. The thickness of the metal is one-eighth of an inch for an 18 inch tube.

Diagram A.

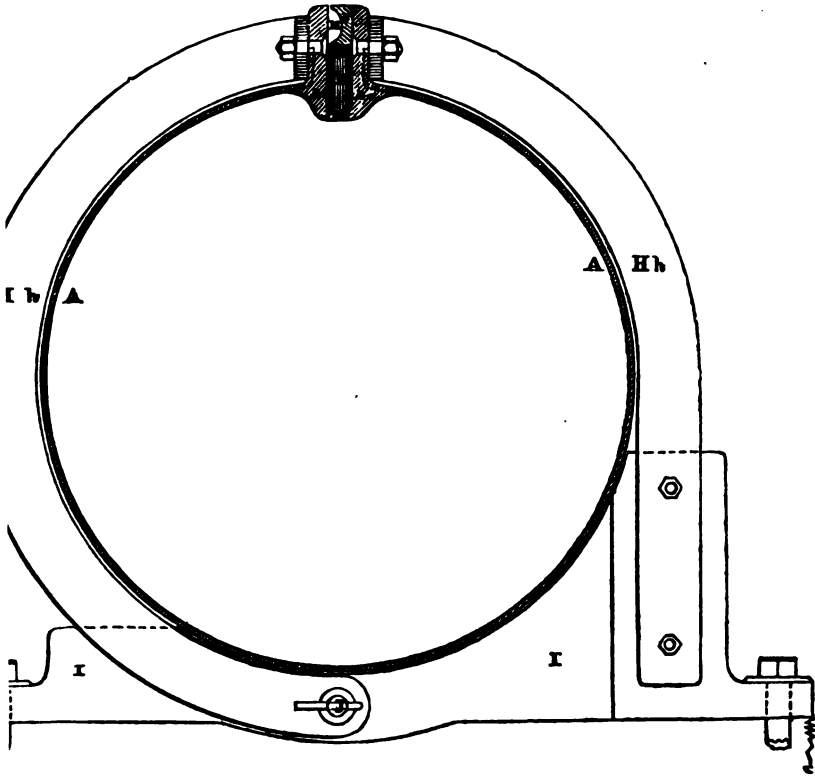
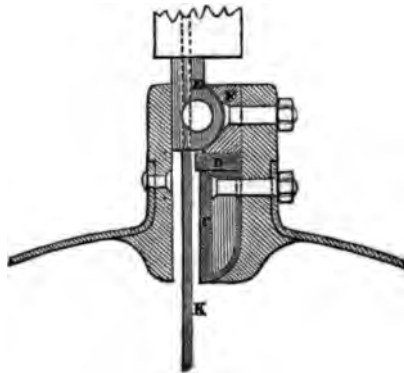


Diagram B.



The plan of joining the different lengths of tubing, end to end, in order to form a continuous tube is, in the first place, by gluing or cementing a piece of sulphurised caoutchouc, or sulphurised gutta percha, with Jeffrey's marine glue or other like composition round it, forming thereby a regular air-tight joint. This band is about 4 inches in width. Over this is screwed a broad metallic hoop of thin sheet iron or galvanised steel. This retains the tube in a continuous line, and keeps the lining in complete contact with the tube. The bands are made exceedingly light—not exceeding 5 lbs. for an 18 inch tube. See figures E and F.

Having thus briefly, but, at the same time, we trust, clearly explained the great feature of the present invention, with the chief means adopted for its practical application, the next most important point for consideration is the mode by which the tube is to be opened for the passage of the connecting plate, with the least amount of friction and leakage. The first intention of the patentees was to have opened the tube by means of a highly-polished steel-plate sliding in the trough of the valve, and opening the tube about three-eighths of an inch. The couler was placed before the sliding steel plate, and passed through the opening without coming in contact with either side, so that by this means the wear and friction were confined to the steel slide and the smooth iron surfaces of the tube. The opening for an 18 inch tube is about 60 feet long; consequently, if the lateral pressure of the valve amounted to 1 lb. to the inch, there would be a pressure of 720 lbs. Now, according to recent experiments, the friction of polished steel on polished iron is equal to about $5\frac{1}{2}$ per cent. of the pressure, and the retardation from this cause was estimated as equivalent to $76\frac{1}{2}$ lbs. at all velocities. Another plan of opening the tube, however, suggested itself—namely, by means of horizontal wheels attached to the carriage acting against one side of the tube, the wheels being pressed against the valve-face by springs. By this means the friction would have been greatly reduced. But these designs, notwithstanding they each possess merit, have been abandoned by Messrs. Clarke and Varley in favour of a mechanical contrivance which, upon a careful consideration of the manner, appears to us to relieve the invention of the chief difficulty to be encountered, and presents in itself a simple, and, if we may so describe it, self-acting mode of opening the valve. This is by means of what we shall take the liberty of calling a *supplementary* rail, which being laid on a series of levers attached to the *vibrating* arm of each standard supporting the tube, is by the run of a wheel weighted for that purpose, and attached to the bottom of the travelling carriage, made to open the elastic tube at the simultaneous passage of the piston. The accompanying wood-cut will illustrate this contrivance.

L is a lever, one end of which fits on the pin J; the other end supports the longitudinal rail; this lever is $1\frac{3}{4}$ inches wide, and $\frac{1}{4}$ inch thick. There is one of these levers to each standard. The end of the level that supports the rail is attached to the top of the vibrating arm by means of a rod, M. The rail, N, is a continuous plate of iron, 3 inches wide, $\frac{1}{4}$ inch thick, supported at intervals of 6 feet by the lever L and rod M.

It is not within the design of our publication to enter into minute calculations and the discussion of theories which, unfortunately for

Diagram C.

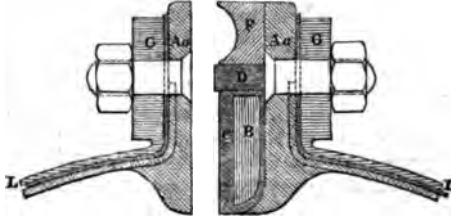


Diagram D.



Diagram E.

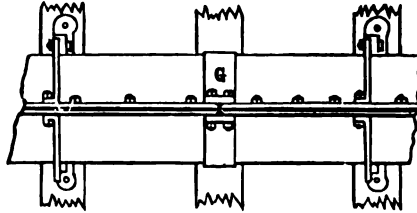
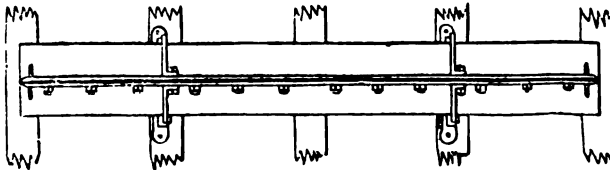


Diagram F.



theorists, have too often misled in their direct practical application; we are content to lay before our readers the broad principles on which the present invention lays claim to the notice of the public. The inspection of the working models themselves, at John Street, Cambridge Heath, will repay attention; and in these matters practice is what must be looked to, and not theory. We subjoin our calculations as to the relative cost of our system.

1. Cheapness of construction. A double line of main may be laid down for the same expense as a single one, on any of the present systems. The weight of one mile of 18 inch main, complete, will be under 125 tons, which, at £20 per ton, including labour and fixing, will be under £2,500 per mile.

The estimate given by Mr. Samuda, for a 15 inch main complete, is £15 per ton, or £4,300 per mile. The estimate given by Mr. Hallette is about the same as by Mr. Samuda. The expense of the continuous valve alone (without fixing) of Mr. Samuda's is, per mile, £1,080; ditto Hallette, £800. But the estimate given by Mr. Samuda and M. Hallette is £5,000 per mile for 18 inch main complete; and as the patentees wish to be considerably below, instead of above, in their estimate of the saving effected by their system, they allow £2,000 per mile as saving per mile (being £500 per mile under the actual saving).

The saving then for 1 mile is	-	-	£2,000
" " 3 "	-	-	6,000
" " 100 "	-	-	200,000

2. Of moving, laying, and joining the mains, the main not being one-fourth the weight, the expense of carriage and laying will be in the same proportion diminished.

3. The loss by leakage on the present system, arise from, 1st, the longitudinal valve; 2nd, through the cast metal of the pipe; 3rd, the joints of the tube, by the expansion and contraction of the iron; 4th, by the piston—there being an aperture in the longitudinal opening of the tube not filled by the metal plates of the valve, and by the inequalities of the internal surface of the tube around the piston, amounting in all from 50 to 80 per cent.

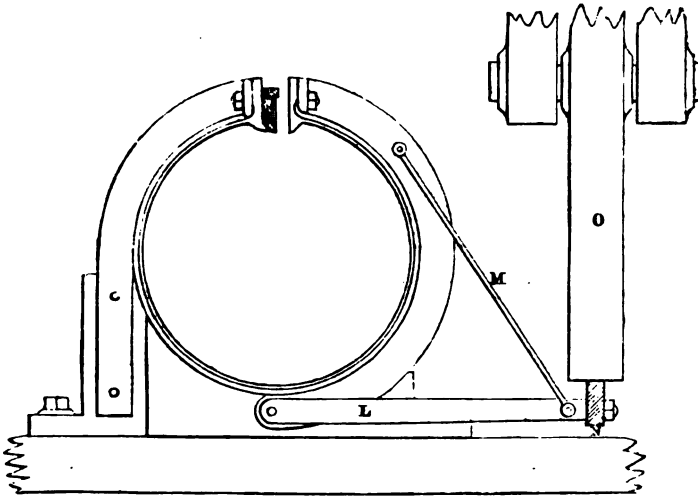
4. These losses are prevented in Messrs. Clarke and Varley's tube—1st, by the lateral pressure of the tube perfectly sealing the longitudinal opening. The lateral pressure amounting to 90 lbs. on every inch of the longitudinal opening for an 18 inch tube, when the exhaustion is at 10 lbs. on the inch; 2nd, the joints are perfectly air-tight, allowing at the same time for the expansion and contraction of the tube or the subsidence of the sleepers; 3rd, the tube being made of malleable iron, will prevent any leakage through the metal; 4th, the tubes will be formed perfectly cylindrical, and the piston will move with the same degree of exactness as the piston of a steam-engine.

5. The piston, moving inside of a polished and perfectly cylindrical tube, will be susceptible of the same exact fitting as in steam-engines. The packing of the piston will be forced in contact with the tube by springs, exerting a uniform pressure of 1 lb. to the inch under every degree of exhaustion. The pressure consequently of the piston packing of an 18 inch tube is 54 lbs. (the friction, according to M. Morin, is 191

per cent. for leather on iron, and 241 per cent. on a surface of tallow) ; then $54 \text{ lbs.} \times .191$ is 11 lbs., will be the friction at all degrees of exhaustion, and at all velocities of the piston. But in a cast-iron tube a double cupped leather packing is used, or a packing kept in contact with the sides of the tube by the pressure of the air, this pressure increasing in the same degree as the exhaustion. Suppose, then, that only one of these cupped leather packings is in contact with the sides of the tube, at the same time that the exhaustion is at 12 lbs., $54 \text{ inch} \times 12 \text{ lbs.} = 648 \text{ lbs.} \times .241 = 156 \text{ lbs.}$, being the friction of a piston 18 inches in diameter. Thus a saving is effected of 145 lbs. in friction over the present cast-iron tube.

6. The loss by friction in opening the tube, or valve, for the connecting arm to pass, and the admission of air behind the piston.

Diagram G.



This opening must be at least one-third the area of the piston. The opening then for an 18 inch tube will be three-eighths wide, and 60 feet long. The lateral pressure or spring of the tube will be about 1 lb. per inch, or 720 lbs. for the entire opening; but as the friction with wheels is only 1-200th part of the pressure, the friction of opening the tube will be less than 8 lbs., and that added to the friction of the piston leather will be 19 lbs., or the 190th part, or one-half per cent. of the traction power of the tube; and this, it must be remembered, is the only loss between the stationary engine and the train.

7. The cost of maintenance will be reduced to simply painting the outside of the tube twice a year. It is difficult to make a comparison between Messrs. Clarke and Varley's system and others, since we have

not at present very correct data what their cost really is. But from the estimate of Mr. Samuda, he allows for the continuous valve per

mile per year - - - - -	£50
One man, per mile - - - - -	31
Composition - - - - -	15
Charcoal - - - - -	2
The interest of say £2,000, the amount saved per mile would be in furnishing - - - - -	10
<hr/>	
Saving per mile - - - - -	198
<hr/>	
Three miles at £198 per mile - - - - -	594
<hr/>	
One hundred ditto - - - - -	£19,800

8. The facility of repair, in case of accident, is much greater than in any other; a length of tube may be taken out from any part of the line, and a new one put in its place complete for working, in less than ten minutes. The difficulty of repairing the valve is a great objection to M. Hallette's system.

9. Another important point is the certainty of action in the valve; it is not dependent on any contingency whatever—intense cold or intense heat, rainy or frosty weather, will not affect its working. The tube is given a certain degree of spring, only just to bring the two valvular lips in contact. The spring, after it is once given to the tube, will always remain—it will never have the slightest tendency to relax; so that the valve is sure and certain in its action. It is self-acting—non-mechanical. The pressure of the atmosphere hermetically seals it. The spring of the tube will always remain; so will the pressure of the atmosphere.

The following is the detailed estimate of cost, as furnished by the patentees:—

	Weight of each tube of 12 feet lengths. cwt. qr. lb.	tons per mile.	per mile.
Eighteen inch main of plate iron $\frac{1}{2}$ inch thick	2 1 18	54 at £12	£648
Top ribs forming the lips, 3 inch wide, 1 inch thick - - - - -	1 0 8	23 10	230
Belts for joining the ends of the tube together - - - - -	0 0 5	1 24	24
Stays for supporting the tubes 2 inch wide, $\frac{1}{2}$ inch thick - - - - -	0 1 2	6 10	60
Cast-iron saddles to support the tube - -	0 1 12	8 8	64
Longitudinal padding for the valve $1\frac{1}{2}$ inch wide, $\frac{1}{2}$ inch thick - - - - -	0 1 2	6 10	60
Labour, including forming the tube, valve, stays, belts, laying, fixing, and painting, at £2 each tube - - - - -	...	...	880
	<hr/>	<hr/>	<hr/>
	4 2 1	99	£1,966

The model at work at Cambridge Heath is full-sized, of 12 inches diameter.

ATMOSPHERIC RAILWAYS.

The Principle of Discontinuous Impulses; or, Short Close Tube Trac-
tion. By the Patentee, THOMAS SWINBURNE, Esq., of Lincoln's Inn.

Figure 1 a.

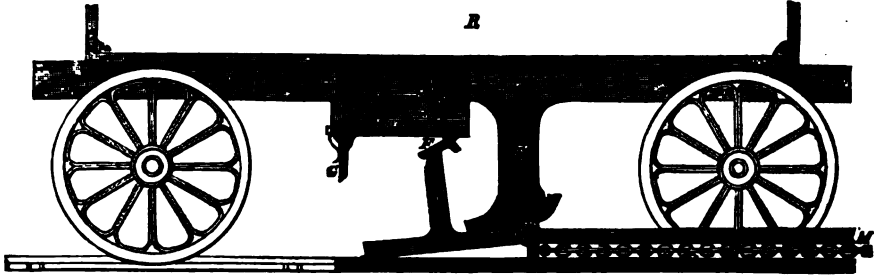


Figure 2.



Figure 1 b.

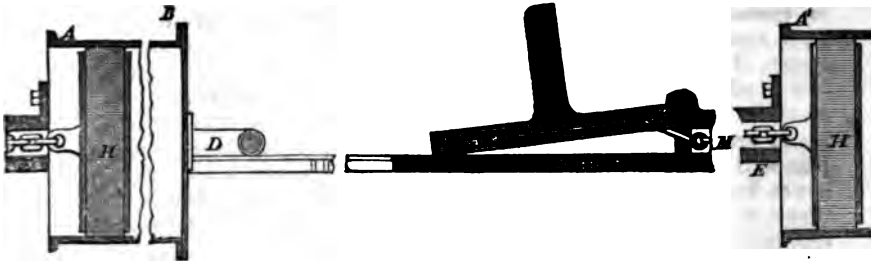
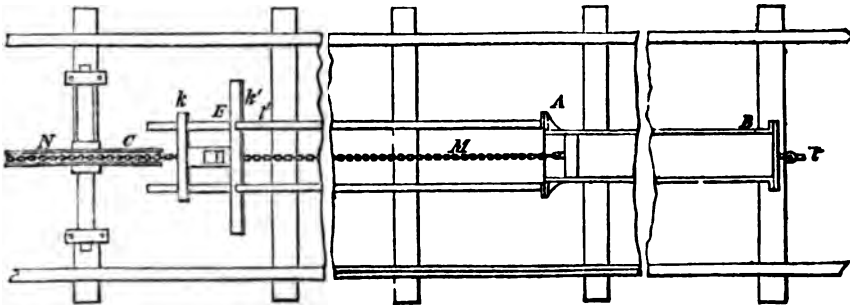


Figure 3.



WE introduce to our readers a most novel and simple system of atmospheric propulsion. Its novelty consists, among other things, in getting rid of the never-ending tube and never-ending valve, and in substituting short discontinuous tubes, at intervals these tubes being entire and without any longitudinal slit,

The result appears to be, that the application of the atmospheric principle is reduced to a state of extraordinary simplicity, with vast gain of power, and vast saving of expense.

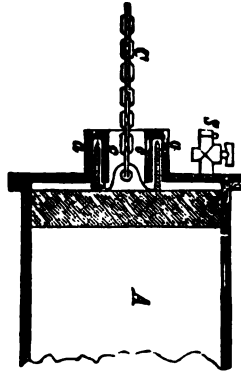
We now make some extracts from Mr. Swinburne's specification.

"My invention consists, firstly, in employing, instead of one long continuous atmospheric traction or propelling tube, several short and discontinuous traction or propelling tubes, placed at intervals more or less distant apart. Fig. 1 *a* and fig. 1 *b* represent a sectional elevation of a portion of an atmospheric railway on this plan. A B represents one of a series of tubes, perfectly close, except at the end A, which is open, and at the passage D, which communicates with the ordinary exhausting apparatus. H is an air-tight piston, situated at the end A of the tube. M is a flexible rope or chain, fastened to a frame, *k k'*, which runs between guides, E E, for the purpose of keeping it steady. At *l l* in the guides there are shoulders, against which the bar *k'* of the frame is pressed when the air is exhausted from the tube, and which, by means of the bar and rope or chain M, will keep the piston stationary at A, till the bar is pressed below the shoulder. P is an upright bar, bolted to the frame *k k'*, the use of which is to bring the frame into connection with the carriages. The tube A B being exhausted, the apparatus, in the state as above described, is ready for the propulsion of the train. In order to make these means of propulsion available, the leading carriage, R, of the train, is furnished on the under part with a hinged tappet, F, which will pass over the upright bar P on coming in contact with it, but which will not allow the bar to pass back again when the piston is set in motion; and also with another tappet, G, placed at a suitable interval behind the other, and so adjusted that it will give way and allow the upright bar P to escape at any given pressure. In advance of the tappets, but so as not to interfere with them, are attached to the bottom of the same carriage two inclined planes, S S, one of which is seen in the figures. These inclined planes are so fixed, that as soon as the upright bar P has passed behind the tappet F, they may come upon the bar *k'*, and press it down, and so disengage it from the shoulders *l l*, as shown in fig. 2, when the piston will be free to move. When, therefore, the front carriage, furnished with such tappets and inclined planes as aforesaid, is brought up to the upright bar P, so that that bar shall be between the two tappets, and the bar *k'* is then disengaged from the shoulders, the piston will pass to the end of the tube, dragging with it the upright bar P, and propelling the train. On the piston reaching the end B of the tube, the upright bar P will come in contact with the tappet G, which will give way, and the train will proceed with the impetus it has now acquired to the second or next succeeding traction tube A', on arriving at which, the second upright bar, P', will pass under the tappet F, the inclined planes S S will disengage the bar *k''*, and the piston will be set in motion as before.

"If the piston does not in the first instance travel so fast as the train is now moving, the tappet G (which may be made to withstand any

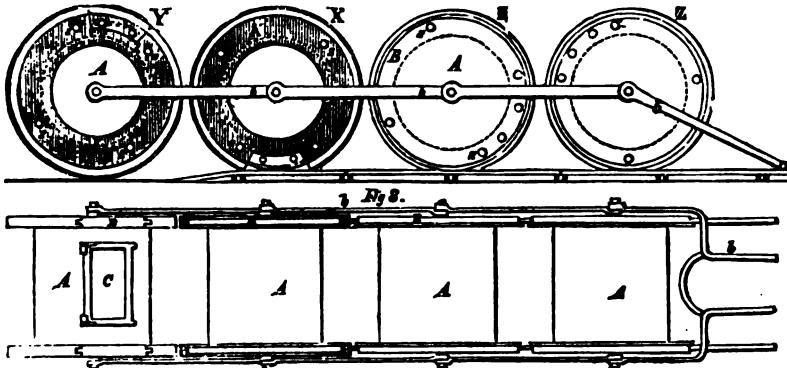
required pressure) will carry on the frame and upright bar till the piston acquires a velocity greater than the train. The upright bar P will then be brought against the tappet F, and the train be again propelled, after which it will be disengaged from the upright bar, as before, and will be accelerated again on arriving at the next traction tube.

Figure 5.



“The advantage of this mode of propulsion is, that the tubes, on account of their perfect closeness, can be more perfectly exhausted, and also that the shortness of the tubes allows of their being made of much larger calibre, and consequently of greater power than heretofore. It will probably be found that, with tubes of 3 feet in diameter, and of 50 or 100 yards in length, the traction tubes may be fixed two or three

Figure 7.



miles, or more, apart from each other. I prefer employing close tubes, as before described; but it will be obvious that my system of discontinuous propelling tubes is also applicable to tubes of the kind now ordinarily used—that is, tubes having a longitudinal valve, along which the connecting bar passes; but, in that case, each tube would have a separate piston and connecting bar.

“Secondly, my invention consists in combining with a series of short

discontinuous traction tubes, as before described, the peculiar mode of exhausting the same, represented in the plan, fig. 3. A B represents a close tube with a piston at the end, A, to which is attached a rope or chain, M, the tube being made perfectly close by means of the stop-cock, *t*, or otherwise, after the piston is brought to the end. C is another rope, furnished with apparatus for attaching it at pleasure to the bar *k'* of the frame *k k'*; this rope runs over a roller, N, at a suitable distance from the tube, and is connected with drawing machinery placed at a proper distance in a sunken pit (not shown in the drawing), and the object of which machinery, whether worked by manual or other power, is to pull the piston along the tube from B to A. On the arrival of the piston at A, the bar *k'* will have arrived at E, and, being passed over the shoulder *t'* of the guide, will retain the piston at A. This rope or chain C may then be detached from the bar or frame, as before, when the apparatus will be ready for propulsion.

“Thirdly, my invention consists in a method of preserving the vacuum, when once obtained, in short and discontinuous atmospheric railway tubes, such as before described. Instead of having the tubes open at one end, which would occasion a heavy and continued pressure on the piston, and continued strain upon the rope, let a smaller tube *a a*, as shown in fig. 5, be fixed to the end of the main tube A, and another tube, *c c*, so as to leave a hollow space between them. At the end of the piston, let another tube, *b b*, be fixed, so as to pass within the space between the tubes *a* and *c*; let the interval between the tubes *a* and *c* be filled with some yielding plastic matter, such as white lead or clay, mixed with oil to prevent its drying, and let the end of the tube A be furnished with a valve, *s*, opening outwards. It is plain that if the piston be drawn up to the end of the tube, the tube *b*, will enter, and become imbedded in the clay or other matter contained in the interval between the tubes *a* and *c*. The air between the piston and the end of the tube will have escaped by the valve *s*, which will close, and the pressure of the atmosphere will be excluded, except as to that part of the piston which is within the tube *b b*. The communication between the air and the interior of the tube will be thus cut off, and there will remain only the pressure upon so much of the piston as is left exposed by the tube *b*, which pressure is easily opposed by the chain C, until the moment arrives when it is required to propel the carriage.”

Mr. Swinburne describes also in his specification a carriage suitable for railways of all sorts, as well steam as atmospheric. An elevation of this carriage, or rather of a train of such carriages, is given in fig. 7, and a plan in fig. 8. The following is the patentee's description:—

“Sixthly, my invention consists of a carriage suitable for railways of all descriptions of the new construction, represented in elevation and plan in figs. 7 and 8. A, fig. 8, is the body of the carriage, which consists of a hollow cylinder, having at each end a broad flanged rim, B, similar to that of the ordinary railway wheel. From each end of the cylinder a short axle arm projects, for the purpose of passing the shafts (*b*) over it, as represented in the figures. A hinged door, C, of any convenient size, is made in the periphery of the cylinder. To render this sort of carriage more extensively available for carrying by railway, each carriage is provided with a set of caps, by the fitting on of which to the broad rims of the carriage, the whole of these rims may be raised to a level with the tops of the outside flanges, and so present a plain

surface to the ground. They are secured in their places by means of bolts passed through holes (*s, s, s,* and *s*), and secured on the other side by lynch-pins. The carriage is thus rendered useable on common roads, and, on arriving at a railway, all that is necessary will be to take out the lynch-pins and remove the caps. For the purpose of more readily attaching and detaching the caps, a piece of each cap, say 18 inches in length, may be made separate from the rest, and fitted on separately from the rest of the caps, as indicated in the carriages X Y, fig. 7; thus, supposing a cap were brought up to the carriage in such a position that the open or broken part of it was downward, in order that the cap might not be obstructed by the ground, the bolts should then be fastened, and the carriage turned, so as to bring the open part of the cap away from the ground, and so give room for fastening the detached piece. The carriages Z Z, fig. 7, are represented with the caps entirely removed, and ready for railway travelling. The carriage Y, fig. 7, is represented as fitted with the caps complete, and in a state fit for common road transit."

If an axis were placed in the centre of this cylindrical carriage with a chair or other receptacle firmly attached to it, any goods or other subject of conveyance which would not admit of revolving with the carriage, being placed in the chair, or receptacle, would retain the same position all through the transit. Such are the main features of this invention. It has been objected that it will be difficult on this plan to insure an even velocity during the whole period of transit. Admitting the fact, we do not see the force of the objection. The great object in railway travelling is safely to go over a great space in a short time. No railway company at present conveys passengers at one uniform pace.

A more serious objection would seem to be this—that it does not appear how a train is to be started again, in case of accidental circumstances rendering it necessary to stop between the traction tubes. As to this, however, in the course of working, some ready means would soon be devised of carrying the train either backward or forward to the nearest traction tube; and we are disposed to assume, that if the "short tube traction principle" will but work well in other respects, the greatest results may be anticipated; for not only is the atmospheric power infinitely multiplied, but it is rendered infinitely more available, being brought infinitely more within our means.

The advantages, too, presented by the invention, it is to be observed, would be advantages of constant recurrence, and such as would show and make themselves felt in pounds, shillings, and pence upon the balance sheet every hour that a railway might continue working. For, if the inventor's views are well founded, a mile or two of tube will work 100 miles of rail, and then not only must the first cost of constructing the line be prodigiously reduced, but the ever-recurring expenses of maintaining and working the line must be proportionately brought down. This is manifest at once, but it impresses itself more strongly, when the simplicity and solidity of the power-generating apparatus is considered, and when it is also considered that the shortness of the tubes will render many cheap means of exhaustion applicable, which could not be resorted to on the old plan.

To conclude, it is unsafe to assume too much until this invention is practically tested. For practicability and practice are all in all. The great advantages it holds out, and the comparative inconsiderableness of the expense required for the purpose, will, however, induce a speedy trial.

FURTHER IMPROVEMENTS IN ATMOSPHERIC RAILWAYS. BY JAMES PILBROW, C.E. F.S.A.

ALTHOUGH the tide is not so strong in favour, perhaps, of the success of the atmospheric system as a year ago, and though the little eddy continues against it, consisting of the prejudiced or interested, and some journalists who try to bring it into disrepute, yet the number of suggestions and *improvements* continually being brought forward and patented, show that "it is not dead, but only sleepeth"—that great hopes are entertained yet for its perfection; therefore, it is not unlikely that by the perseverance and talent of so many engineers and mechanics, whose minds seem to be occupied with this subject, that we shall ere long enjoy this mode of travelling, which, say what its opponents may, possesses many advantages, particularly some that *just now* would be considered very desirable, namely, safety from collision and running off the rails, together with speed, cleanliness, quietness, and ease. We shall give our readers a description of the recent improvements of Mr. Pilbrow, because the system generally is one of great interest, and because the particular system brought into existence and originated by this gentleman forms a new and distinctive class, making now two descriptions of the atmospheric system, *with the valve*, and *without the valve*; and because it is in this second class, perhaps, that ultimate success is to be found. We perceive Mr. Pilbrow has several followers.

The present improvements of Mr. Pilbrow are calculated to advance his ingenious system very considerably in public estimation. They obviate, to a great extent, the objections which have been urged to its practicability. That trains may be readily propelled in the way he proposes, we have no doubt; the rate, and wear and tear, are points that a trial on a considerable scale only can determine. We subjoin the principal parts of Mr. Pilbrow's description.

"According to the plan of propulsion described in the specification of my former letters patent, two cogged racks were employed, one attached to the piston, and the other to the under part of the railway carriage or truck, and the motion onwards was transmitted to the train through, and by the medium of, a series of pinions or rollers. Now, by my present invented improvements, the necessity for the said pinions or rollers is superseded by forming the two racks (or their substitutes), in such manner, that they shall lay hold of or catch, or lock into each other, so that the one being forced onward, the other must go with it. The mode in which this is accomplished is represented in the annexed engravings. Fig. 1 exhibits a longitudinal section of the traction or main tube, as altered to adapt it to my present improvements. Fig. 2,

Figure 1.

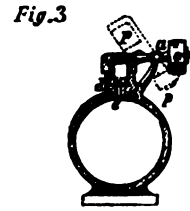
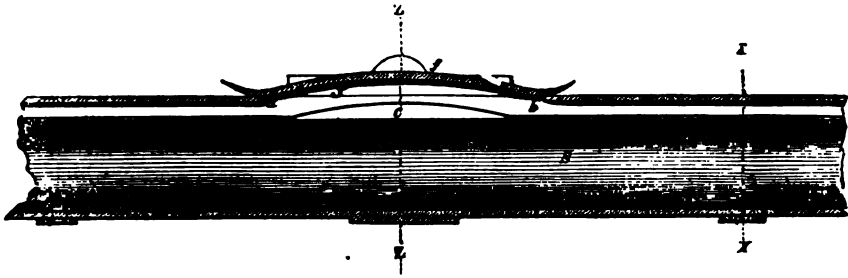
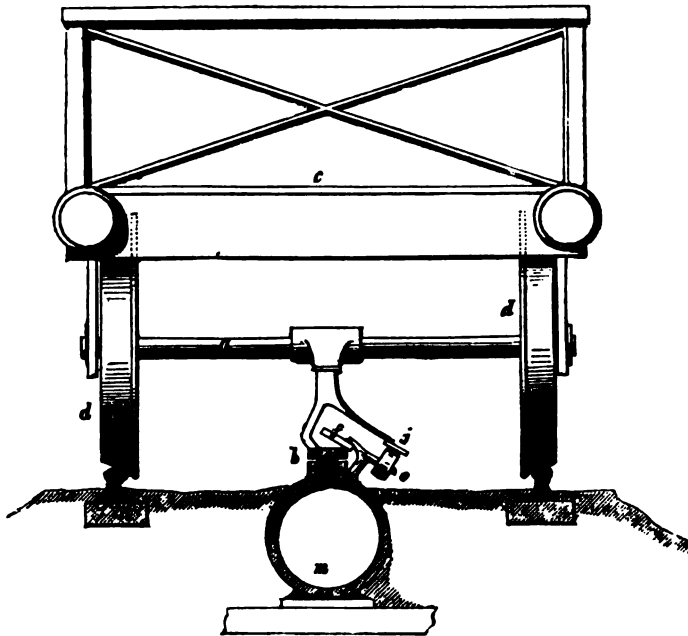


Fig. II



a section of it on the line *XX*; and fig. 3, a section of it on the line *ZZ*. The tube is made as before, with a square channel along its upper side, as seen in fig. 2; but at every 20 or 30 feet, or thereabouts (where the pinions or rollers were formerly introduced), the top part of the channel is cut away for a distance of about 3 feet, as from *a* to *b*, fig. 1, and partially filled up on each side by metal in the manner shown at *c*, fig. 1, and *d d*, fig. 3, leaving the space, or slit *e*, still preserved. Over this opening I place a flap, or cover *ff*, of metal, of a curved form, corresponding with that of the raised part *c*, which works upon hinges, and forms a valve to exclude the atmosphere when shut down, being made with a surface sufficiently true to shut on to the edges or upper surface of the channel around the orifice, either by grinding, or the use of any suitable sealing material or materials. As the curve of this valve, or flap, corresponds exactly with the rising of the portion *c*, there is no actual contraction of the size of the channel, but a slight change of direction only, so that a body just fitting the channel, passing along it, would be raised by the elevating checks *c*, fig. 1, or *d d*, fig. 3, into the flap when shut down, or would project or be raised above and out of the channel when the flap was up. The piston and connecting arm is similar to that described in the specification of my former patent; but the piston rack connecting-rod, instead of being formed throughout of one entire and rigid piece of metal cogged at the sides, is formed at the after part of a triple series of flat metal links, rivetted together in the manner of a watch chain, as represented in the side and top views, figs. 4 and 5, so that the linked part shall present a series of holes or interstices, *i i i*, for the reception of a set of teeth, or cogs, attached to the rack or couler of the carriage, as hereafter explained. The part *g g*, of the steel arm, which is still kept entire, is made to turn on a joint at *i*, so as to permit the head of the chain to be elevated or depressed. The toothed couler is represented in fig. 6, and as in the act of interlocking with the linked parts of the piston arm; *k* is the rod which connects it with the under part of the railway carriage; *l, m*, the teeth. The chain part of the piston-rod being laid in the square channel *e*, and filling it very nearly, as often as it is brought in contact, or passes over the raised portions, *c c* (fig. 1), it is itself correspondingly elevated, and rises above the top of the channel, the flap or valve *f* being raised as often as described, while the teeth of the couler enter the holes in the chain as they present themselves. As the chain advances, it drags the couler along with it, the teeth entering the holes as they rise, and leaving them as it again sinks back into the channel. If, then, a toothed couler of this description be placed beneath a carriage, so as to pass close along the top of the traction tube of an atmospheric railway, and be long enough to reach or embrace at once two at least of such valvular projections or elevations, as *c c*, and be so arranged as to pass under the cover or flap, as represented in fig. 10 of the annexed engravings, it is evident that the chain must take the teeth of one end of the couler before it leaves the other, and will thus drag on the couler and carriage to which it is attached to its journey's end, or so long as the openings are continued at the proper distances. In fig. 10, the toothed couler (*h*) is supposed to be just leaving the orifice or valve at *a*, and entering at *b*; *c* is part of the body of the carriage, *d d* the wheels, *k k* the arm, *m* the

Figure 10.

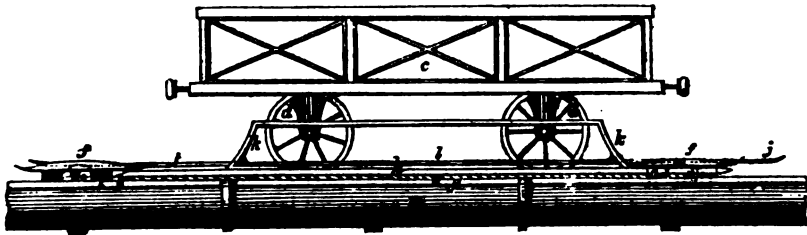


Fig. 4

Fig. 6.

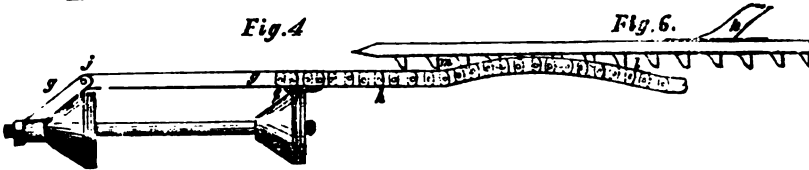


Fig. 5.



Fig. 8.

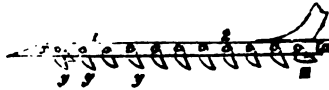
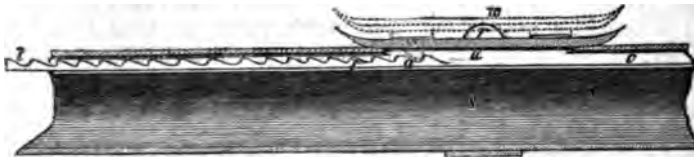


Fig. 7.



main, *e* the square channel, *i i* are two orifices with covers or flaps *f f*, to which are attached projecting arms *n n* (see fig. 3), upon which are fixed rollers, or friction wheels, *o o*, these arms acting as levers to the flaps, and, when pressed downwards, lifting the flaps from their seats, as indicated by the dotted lines *p p*, fig. 3. A horizontal bar, *j j*, which I call 'the lift,' is placed just above, but rather to the side of the toothed couler, and attached to the under part of the carriage or its axles, in such a position that the carriage, as it moves onward, must press upon and lower the rollers as it passes, and thereby cause the flaps to be raised up, and when passed, permit them with their own weight

to fall again, and make an air-tight tube. This bar (*j j*) should be longer than the coulters, that it may open or lift up the flaps in time for the coulters to enter, and the arrangement and situation of the lever, roller, and bar should be such as to cause the flap to rise high enough for the clear passage of the coulters of the carriage. Fig. 11 represents a sectional view of the preceding arrangements; *m* is the tube, *b* the coulters, *f* the lifting flap, *o* the friction roller, *j* the bar pressing on the roller attached to, or with the coulters to the axle of the carriage, *a* the axle, *d d* the wheels, and *c* the body of the carriage. It must be observed, that it is intended that the linked part of the steel-connecting-arm, *g g*, fig. 4, should fit as nearly as can be laterally the opening *e*, of the tube, and that the first link of the chain over the after part of the piston at *y* should be made to fit as nearly air-tight as practicable to the channel in which it is to travel; and further, that the chain part should be of about the same length as the toothed coulters, and never less than the distance from one valve to another, measured from the further extremities.

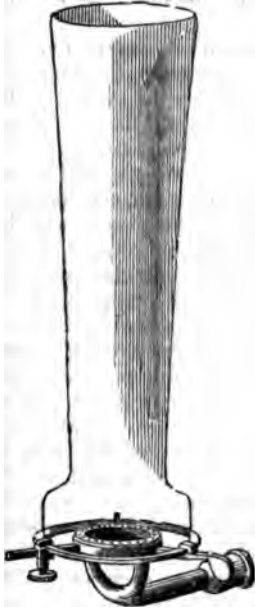
“A modification of the preceding arrangements is represented in figs. 7, 8, and 9. In this there are no elevating or projecting parts in the channel, as at *c*, fig. 1, and the flap or valve *f*, is made quite flat, without any curvature in it. The piston connecting-rod, moreover, has no chain part, but consists throughout of a rigid bar or rod, with teeth or cogs *t t*. *v* represents the friction roller, and the dotted lines, *cr*, the position which the flap valve assumes when lifted up. Instead, therefore, of the piston rack or chain rising up through the orifice, as in the preceding case, to take hold of the toothed coulters, the toothed coulters in this instance so made that its teeth or projections shall descend through the orifice, and fix themselves in the teeth of the piston-rack. And for this purpose, the carriage rack, or coulters, is made of several parts and pieces, in manner following:—The two sides consist of flat bars of iron, between which are placed a series of pieces of iron, forming teeth, and moving partially upon the rivets or bolts which hold them in their places, as shown in figure 8, where *x x* represent one of the metal bars or sides, and *y y y* the moveable cogs or teeth. These teeth are so fixed that they can move towards the right hand to a limited extent, as indicated by the dotted teeth *z z*, and thus have their lower extremities raised; but their upper parts are formed with a shoulder, as shown by the dotted lines 1, 2, which shoulders meeting with suitable projections on the inner side of the bars which hold them all together, prevent their being forced beyond the position shown on towards the left hand. Let us now suppose that a carriage, with a toothed rack or coulters of this description beneath it, is placed upon the rails, and that the coulters lie along the upper part of the atmospheric tube, as shown in fig. 10, then, if this coulters be placed so low that the points of the teeth shall touch the top of the outer surface of the channel, and be all pushed up and towards the right hand, as at *x z*, fig. 8, and that the valve flaps are lifted up as before described, it follows that the teeth which are over the orifices will fall down into the position *y y*, fig. 8, and project downwards into the corresponding indentions of the piston arm, as shown in dotted lines at *a**, figure 7. Fig. 9 is a cross section of this modification, showing the valve lifted up, with its roller and lever, (the dotted lines indicating their positions

when closed.) If it should be found that the gravity of these moveable teeth or catches is insufficient to ensure their fall into the indentions of the piston-rack, on account of the rapidity of motion, springs may be provided to act upon them and press them down, whenever they come over the different orifices.

“To apply these improvements to water or canal or river propulsion, it is only, as stated in my last specification, necessary to place the atmospheric tube along the banks or upon piles down the centre of the canal or river (above high-water mark), and affixing the ‘carriage’ rack or coultter to the side or bows of the vessel by projecting arms for that purpose, when all the other parts and arrangements will be as described for railway purposes. The mode of operation, according to this method, for a railway would be as follows:—The piston, with its rack, would be inserted into the main tube and channel, until the fore part or the end near the piston came under the first valvular orifice of the series; the carriage, with the toothed rack or coultter attached to it, would then be brought up until its toothed part is exactly over, and matched end to end with the piston rack. The flat bar (which I term the ‘lift’) coming upon the roller of the first vale would press it down, lifting the flap sufficiently for the point of the coultter to pass under it, and the teeth falling into gear with those of the piston-rack, they would become locked together, the first tooth of the coultter being in the first indent of the piston-rack, and the second in the second, and so on. The vacuum being formed in the usual or most approved way, the effect upon the piston would be to draw it onwards, and the carriage being free to move, the coultter and rack would continue to lock their teeth into each other as they presented themselves at each succeeding orifice or valve. The coultter and rack being, as before directed, long enough to reach or embrace at least two, or more, of the orifices, they would never be out of gear with each other at one part or other of their entire length, and thus, as long as the vacuum were kept up, the piston would drag the carriage after it to the journey’s end, with as many others attached as the vacuum power applied would admit of. The leakage would in this way be reduced to a minimum, or nearly so, and a number of short valves would be substituted for one long one, making in the aggregate but one-tenth of the length, allowing of space sufficient between the valves for crossings. The valves, too, being small, and of one piece of metal, would be capable of being made at once air-tight, and incapable of being injuriously affected by changes of weather.”

It cannot be too strongly urged in these undertakings, as Mr. Pilbrow has exerted himself to prove, that practical experiment is of the utmost importance. With the number of such plans before the public, he will gain the race who can soonest bring his improvements, in a working state, before the public.

THE NONPAREIL GAS AND OIL BURNER FOR RAILWAYS.—RETTIE'S PATENT.



THE importance of a burner for consuming gas in a perfect manner has long been felt, and it is with great satisfaction we have now the opportunity of laying before our readers a description of this newly-invented burner, by a gentleman whose well-known practical and scientific knowledge in all that relates to lamp burners in gas or oil, gives the fullest assurance that this invention is well worthy of the attention of those who really wish to enjoy comfort and cleanliness in the consumption of gas. It is a well-known fact that there are few noblemen or gentlemen's houses in London where gas has been used, in consequence of the filth and disagreeableness of the smoking, non-consuming burners, creating such a quantity of soot, and besmearing all the gilding, drapery, and every thing which is valuable; so much so, that many resort to oil, uncleanly as it is—still anxious to retain a good light, they are compelled to adopt the least destructive. We have now subjoined a wood engraving of the "Non-

pareil Burner," which, for simplicity, has few rivals. No fantastic bottoms or incumbrances obstruct the light; but a simple ring, and stems for support of the glass, with an elegant tapering chimney of glass, which, when the burner is fairly lighted, gets gradually heated by the flame, and as the gas issues out, the air, in passing the metal burner, becomes strongly heated, which causes perfect combustion on entering the flame, and the light is more perfect by the extra supply of oxygen, which completely gets rid of the carbon; so that, by the report of the inventor, you may hold a sheet of spotless paper above a flame as pure as silver, unscathed, unpolluted; and more—the flame extended nearly 6 inches, devoid of the blue, which formerly took away the half of the light, and is now, by this burner, completely abolished. The comfort must be great of sitting in a room with a gas burner brilliant in flame, and free from all smell or nauseating smoky vapour, which all gas burners, on the old plan, were sure to engender. They are being applied to railways most extensively, in all the various departments, when the saving will be great, the principle being applied to oil as well as gas, to railway carriage lamps, station lamps, as also to signal lamps of all kinds. Several very important improvements are thus introduced, regarding the stopping of trains, by means of a simple signal, which a child might use with safety. All sorts of extraneous apparatus, as whistles, matches, tinder, pullers, ropes, &c., are so liable to change and vicissitude, that they are worse than none. They deceive,

when trusted, and throw parties off their guard, causing serious accidents. We know to Mr. Rettie the railway world are already deeply indebted for his system of night and day signals, which have become universal; and we do not know that he has ever benefited by them, nor has the least remuneration ever been given to him. We hope, therefore, he will secure his reward in the present instance.

REVIEW.

Elementary Text Book for Young Surveyors and Levellers. By HENRY JAMES CASTLE, Surveyor and C.E.; Author of a *Treatise on Surveying and Levelling; on Cuttings and Embankments; on Railway Curves, &c.*; and *Lecturer on Practical Surveying and Levelling in King's College, London.* London: Simpkin and Marshall, 1846.

THE necessity for new works on surveying arises from the peculiar tendency which has of late been given to that study. While it was mostly confined to its original Egyptian type of plotting out fields, slight instruction was necessary, and simple surveying was sufficient for the pupil to learn. The progress of the railway system, and of agriculture, has extended the applications of surveying, and rendered the study of levelling imperative even on the beginner. We, therefore, receive the work of Mr. Castle with pleasure; and the more particularly, as from his practical experience in the school of engineering at King's College, his attention has been directed to the best methods of soothing the difficulties in the way of beginners.

MADRAS RAILWAY.

WE wish we had now room to give that space to the Madras Railway which its importance deserves, and which the interest attaching to the recent publication of a pamphlet of correspondence requires at our hands. We are, therefore, obliged to restrict ourselves to a portion of Mr. Simms's official report, in which he strongly approves of this line. He says, speaking in detail on each point:—

“1st. *Its expediency.*—Little need be said on this point; for after the experience we have had in Europe in the construction of common highways and railroads, and of the results of their working, there can be no doubt that a railroad is the most desirable of all modes of communication known at the present time; and whenever it appears that a new highway is required for a numerous body of people, and of a considerable trade, a preference should be given to a railroad, although there may be only a reasonable ground to suppose that the existing traffic will pay but a small interest on the capital expended, in addition to the working expenses of the line; for experience shows that in most cases the additional amount of traffic created by the existence of so refined a mode of transit, realises a remunerative return; and from all

that I have as yet seen of India, and learned of its circumstances and condition, I see no reason to doubt that there will be a similarity in the result.

“*2nd. Its practicability.*—Of this, in the absence of a personal survey, I can only judge from the documents laid before me, and from them I conclude that there can be no doubt whatever upon the subject. The mode of its construction and its cost I will presently consider.

“*3rd. Its bearing upon a general system of railroads for India.*

“This is a subject of importance in a new country where this new mode of transit is to be introduced for the first time, and where it will be desirable that every line, however short, should have reference to a general system of railways of which it will ultimately become a part. So far as I can judge from the papers before me, and an examination of a general map of India, it appears that but little (if any) objection can be made to the proposed railway in this respect, provided that the mode of its construction, &c., be consistent with what may ultimately be adopted for the whole of the lines.

“*4th. The mode of construction and cost.*—This should not be left to the opinion of any engineers who may chance to be employed by the railway company, as they are too frequently induced to adopt inexpensive expedients (wise or unwise) to overcome pecuniary and other difficulties, which for the time may answer the purposes of the promoters of the work: because I look upon the railways of India as one vast scheme of the highest importance to the future welfare of this great empire; and although at first they will be constructed and maintained by private companies, yet, after a lapse of years, will fall into the hands of the government and become public property; and on this account, as also for the best and most advantageous mode of working them, it is essential that they should be of a permanent and uniform kind, and one general system be extended to all the lines.

“If the above view of the case be acquiesced by the government, I would recommend that the works be constructed of a better character than is proposed in any of the plans set forth in the documents before me, and, therefore, the original expenditure would be greater than therein estimated; and when the proper time arrives, I shall be prepared with a general specification for the works, that should be binding on the part of all railway companies, or other contracting parties, to carry out to the satisfaction of government, which specification should be subject to alteration only in its unimportant details, and then, not without the sanction of the representative of government.

“The capital of the Madras Railway Company for constructing the line from Madras to Wallajahnugger is stated in their prospectus to be £500,000; with this they propose, wisely as I think, to adopt a more substantial mode of construction than is suggested in the documents now before me, “and one more approaching that found to answer best in Europe.” They propose to construct a single line of railway, about seventy miles in length, at a cost not exceeding £5,000 per mile, which low rate they state will be owing to the “singularly favourable country through which it passes.”

“With the disadvantage of not having surveyed or seen the ground,

and having no detailed maps or plans of the country around Madras, and of the line, or even a section of the line itself, I cannot be considered as in a position to state what the cost will really be; but, judging of what I have seen of works in Bengal, and knowing the cost of rails, engines, and machinery, which I expect must be nearly all brought from England, I am of opinion that £5,000 per mile will be insufficient for the construction of the line and the purchase of the plant necessary for working it. It is, however, probable, that the whole of the proposed capital of £500,000 sterling would cover the outlay, provided that the line does not exceed seventy miles in length, and the expense of management be very economical. An additional £100,000 (supposing that all the statements before me are correct), I expect would make the capital ample for the purposes proposed, and I would advise that it be increased to that amount.

I should not hesitate in this case to recommend the government to allow of a single line of railway; yet their consent should be subject to the condition, that all bridges and other works of masonry should be constructed of such dimensions as to be suitable (without alteration or addition) for a double line, if such hereafter should be deemed necessary or expedient, and that the railway company should be bound to lay down such line whenever required so to do by the government, and also in the construction of the single line a sufficient length or lengths of double line, forming passing places, be constructed, as well as a sufficient number of level crossings to provide for the present and future wants of the country. They should likewise be bound to lay their rails with whatever gage may be decided upon by the government as the one for general adoption on the railways in India. This should be scrupulously adhered to, for although at present such a restriction may appear to be of small moment, upon such a line, and in such a situation as the one under discussion, yet who can say what amount of inconvenience, and what serious impediments may ultimately result from a departure from a general system whenever lines from the north, the west, and the south, intersect therewith and with each other.

5th.—The income and probable return. Assuming the number of tons of goods carried annually along the line to be, as stated, 30,000 tons, and the number of passengers 150,000, the income derivable therefrom ought to be, in round numbers, at least for goods, £17,500, at 2d. per ton per mile; and for passengers, £32,812, at 3d. per mile, making a total £50,312, supposing them to travel the whole distance.

And I consider the annual expense of working the line, and maintaining both it and the plant in perfect repair, will not be less than £20,000; that is, putting it on the most limited scale, and the interest upon £600,000, supposing the capital to be augmented to that sum, would amount to £30,000, at 5 per cent. The income, therefore, in order to pay that rate of interest, should be £50,000 per annum, and we have seen above, that it will probably amount to £50,312. As the traffic is stated to exist at the present time, and which will in all probability be greatly increased, there can be nothing therefore unreasonable in expecting that the proprietors will realise 5 per cent. upon their outlay. In the above statement, I have considered that the plant and

staff is to be of the most limited and economical kind, and also that the traffic will bear a charge of 2d. per ton per mile on the goods, and ½d. per mile for passengers.

6th.—Terms of and period of concession. The terms upon which the concession may be granted should have a reference to the line becoming part of a general system of railways intersecting India in all directions, and its ultimately becoming the property of the government. With this object, not only should the line be constructed after a special manner, but the company should be required to work the line according to a system to be laid down, in which one code of signals may be employed upon every railroad in India, whereby servants passing from one to another, may not be liable to mistakes in that important particular; and so far as possible a duplicate system be introduced in all the details of the railway, so that an accident happening on any line, to any engine or train from another line, or to any part thereof (even to the glass, slides, and burners of the lamps), may be replaced at the nearest station or storehouse, as all similar parts should, as much as possible, be constructed to the same moulds and the same patterns. Likewise, the railway company should be required to furnish from time to time whatever returns, statistical or otherwise, that the government may require; and the whole working and book-keeping to be subject to their control and supervision.

“In settling the lease, it might be equitable, as there is so much uncertainty as to the returns, to allow the period or term to remain blank until the line shall have been opened throughout for a space of ten years, when the average earnings of the last three years might be assumed as a basis upon which to calculate the duration of the lease, that should yield a fixed per centage profit upon the capital, and provide for the redemption of the capital itself. At the expiration of the lease, the whole of the railway and its appurtenances should become the property of the government, without payment, except, perhaps, for the plant, which might be taken at a valuation.

“As a guarantee for the security of the parties, it might probably be advisable to require at the outset a deposit of 10 or 15 per cent. upon the whole capital, to be returned, or applied for the continuance of the works, when one moiety of the capital shall have been expended thereon.

“In conclusion, I must be permitted again to allude to the fact, that this report is founded entirely upon documentary evidence, and therefore must be considered as subject to the influence of any errors these documents may contain.”

We propose, on a future occasion, to consider more fully the subject of the Madras Railway, for it is one in which the commercial interests of this country are largely concerned, and from the execution of which very favourable results are to be anticipated. The correspondence also throws much practical light on the question of Indian railways generally.

THE
GROSS RECEIPTS OF RAILWAY TRAFFIC,

FOR
LAST WEEK OF AUGUST AND THE THREE FIRST WEEKS OF SEPT.

Total amount already expended.	Last Dividend.		NAME OF RAILWAY.	August, last week.	Sept. first week.	Sept. second week.	Sept. third week.
	Per share.	Per cent. per ann.					
14,308	—	3 0 0	Arbroath and Forfar	291	..	274	188
1,527,867	3 0 0	8 0 0	Birmingham and Gloucester ..	....	....	....	....
667,823	{ 20s. }	4 0 0	Bristol and Gloucester .....	....	....	....	....
780,362	{ 12s. }	9 12 0	Ches. and Birkenhead	725	791	774	777
	{ 13s. }						
	{ 6s.6d. }						
631,258	1 4 0	3 14 0	Dublin and Drogheda	975	968	943	938
349,736	0 5 0	9 0 0	Dublin and Kingstown	1,449	1,446	1,236	1,028
153,596	3 0 0	6 0 0	Dundee and Arbroath	546	351	335	347
302,118	0 10 0	2 0 0	Durham and Sunderland	636	480	506	504
4,080,828	{ E. 9s. }	{ E. 6s. }	Eastern Counties and Northern				
	{ N. }	{ N. 5s. }	and Eastern	9,380	9,638	9,864	10,138
	{ 30s. }		Eastern Union	580	425	466	566
16,8 6,226	1 10 0	6 0 0	Edinburgh and Glasgow	4,879	4,480	5,115	4,508
1,104,773	1 15 0	7 0 0	Glasgow, Paisley, and Ayr	3,428	3,007	3,465	2,505
806,134	0 5 0	2 0 0	Glasgow, Paisley and Greenock ..	1,431	1,917	1,234	1,300
2,507,817	5 0 0	10 0 0	Grand Junction, amalg. with London & N. Western	....	....	....	....
82,828	—	—	Gravesend and Rochester	374	387	....	582
1,396,196	5 10 0	6 0 0	Great North of England .....	....	....	....	....
8,170,080	3 4 0	8 0 0	Great Western	20,678	21,940	20,878	20,418
791,740	1 10 0	6 0 0	Hartlepool	638	643	1,007	972
1,774,331	5 0 0	10 0 0	Hull and Selby, amal. with York and N. Midland	....	....	....	....
15,047,301	5 0 0	10 0 0	Liverpool and Man., amal. with Bir. Ret. Imper.	....	....	....	....
1,078,781	0 2 6	1 10 0	London and North Western	45,326	47,090	44,306	44,368
3,406,265	1 4 6	5 0 0	London and Blackwall .....	....	....	....	....
			London, Brighton and South Coast	10,240	10,696	10,790	11,000
842,592	0 7 0	3 10 0	London and Croydon amalg with London, Brigh. and South Coast	....	....	....	....
2,620,724	2 2 6	10 4 10	London and South Western	7,077	8,600	8,607	8,907
2,197,585	1 3 10s.	6 2 4	Manchester & Birmingham amal with Lon & N. West	....	....	....	....
3,372,340	2 18 0	8 6 0	Manchester and Leeds	7,363	8,334	7,944	8,104
842,725	2 14 0	5 16 0	Manchester and Bolton, and Bury	1,375	1,361	1,395	1,367
8,179,980	3 10 0	7 0 0	Midland	20,407	21,078	21,388	23,217
1,137,365	—	5 0 0	Newcastle and Berwick .....	....	....	....	....
1,272,311	1 2 6	9 0 0	Newcastle and Carlisle	2,248	2,147	2,359	2,226
316,800	1 5 0	5 0 0	Newcastle and Darlington	2,220	2,327	....	....
678,818	0 10 0	5 0 0	Newcastle and North Shields ..	....	....	....	....
1,060,551	3 7 6	6 15 0	Norfolk	1,826	1,716	2,198	1,770
			North British	2,150	....	2,166	2,004
			N. Union & Bolton & Preston, amalg. with Man. and Leeds	....	....	....	....
4,291,4	0 12 6	2 10 0	Preston and Wye	1,458	1,375	1,419	1,177
1,312,325	—	3 0 0	Sheffield and Manchester	1,968	2,026	2,185	2,810
521,042	—	—	South Devon	745	567	628	6 6
4,284,924	0 16 0	3 4 0	South-Eastern and Dover	11,289	12,069	12,082	11,514
644,348	3 8 0	5 0 0	Taff Vale	1,412	1,325	1,400	1,465
358,358	—	3 10 0	Ulster .....	....	....	....	....
2,231,300	50s. 25s.	0 0 0	York and Newcastle .....	....	....	5,678	6,464
			York and North Midland	7,818	7,727	7,710	7,748
FOREIGN RAILWAYS.							
8,000	8 3 0	4 0 0	Northern of France	8,036	8,258	9,216	9,316
8,000	8 3 0	4 0 0	Orleans and Bordeaux	2,905	2,242	2,323	2,320
8,000	—	9 10 0	Paris and Orleans	8,143	8,086	8,617	8,617
8,000	—	8 0 0	Paris and Rouen	8,320	8,345	8,376	8,378

Shares.	Railways.	Paid.	CLOSING PRICES.			
			September 4.	September 11.	September 18.	September
£		£				
50	Aberdeen	20	6 — 5 dis	6 — 5 dis	6 — 5 dis	6 — 5
100	Amber, Nott, Boston, & F. Jun.	20	— — —	— — —	— — —	— — —
25	Birmingham and Gloucester..	100	128 — 130	129 — 131	129 — 131	129 — 131
20	Do. New (issued at 7½ dis.)	17½	31½ — 32½	31½ — 32½	31½ — 32½	31½ — 32½
100	Birmingham and Oxford June.	2	4 — —	4 — —	4 — —	4 — —
100	Bristol and Exeter	75	10 — 12 pm	10 — 12 pm	9 — 11 pm	9 — 11
35½	Do. New	5	4½ — 5½	4½ — 5½	4½ — 5½	4½ — 5½
50	Bristol and Gloucester	30	20 — 22 pm	20 — 22 pm	21 — 23 pm	19 — 21
50	Buckinghamshire	42s.	— — —	— — —	— — —	— — —
50	Caledonian	20	4½ — 4 dis	4½ — 4 dis	4½ — 4 dis	4½ — 4
25	Do. ½ Shares	2½	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	1 — 0½
25	Do. Extension	2½	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	1 — 0½
50	Cambridge and Oxford	1	— — —	— — —	— — —	— — —
50	Chester and Holyhead	27½	1½ — 1 dis	1½ — 1 dis	1½ — 1 dis	1½ — 1
25	Churnet and Blythe	1½	— — —	— — —	— — —	— — —
50	Cork and Waterford	5	— — —	— — —	— — —	— — —
25	Cornwall	2½	4 — 3½ dis	4 — 3½ dis	4 — 3½ dis	4 — 3½
25	Do. ½ Shares	2½	— — —	— — —	— — —	— — —
50	Direct Northern	2½	— — —	— — —	— — —	— — —
50	Dublin and Belfast Junction	10	6½ — 5½ dis	6½ — 5½ dis	7 — 6 dis	8 — 6
50	Dundalk and Enniskillen ..	7½	— — —	— — —	— — —	— — —
Average	Eastern Counties	14.16.0	22½ — 22½	22½ — 22½	21½ — 22½	21 — 21
14.16	Do. New	10.16.0	7 — 8 pm	7 — 8 pm	6½ — 7 pm	6 — 6½
6.13.4	Do. Perpet. 5 percent No. 1	6.13.4	— — —	— — —	— — —	— — —
6.13.4	Do. do. No. 2	6.13.4	— — —	— — —	— — —	— — —
20	Do. York Extension	10s.	14 — 2 pm	1 — 1 pm	1½ — 1½	1 — 1½
25	East Lancashire	14	9 — 9½ pm	9 — 9½ pm	8 — 9	8 — 8½
50	East Lincolnshire	1½	— — —	— — —	— — —	— — —
50	Eastern Union	35	— — —	— — —	— — —	— — —
50	Edinburgh and Glasgow	50	70 — 72	70 — 72	70 — 72	71 — 73
25	Do. ½ Shares	10	8 — 9 pm	8 — 9 pm	8 — 9 pm	8 — 9
12½	Do. ¼ Shares	12½	17 — 18	17 — 18	17 — 18	17 — 18
25	Edinburgh and Northern	12½	par 1 pm	1 dis	1 dis	1 dis
50	Edinburgh and Perth	3	— — —	— — —	— — —	— — —
18	Ely and Huntingdon	7½	— — —	— — —	— — —	— — —
50	Exeter, Yeovil, & Dorchester	54	— — —	— — —	— — —	— — —
50	Glasgow, Kilmarnock, & Ayr	50	25 — 27 pm	25 — 27 pm	25 — 27 pm	28 — 28
40	Do. New	15	— — —	— — —	— — —	— — —
12½	Do. ½ Shares (5 per Cent. guaranteed)	12½	— — —	— — —	— — —	— — —
20	Goole, Doncaster, and Sheffield	42s.	— — —	— — —	— — —	— — —
50	Great South & West. (Ireland)	27½	5 — 6 pm	5 — 6 dis	4 — 5 dis	3 — 4
100	Great North of England	100	228 — 231	228 — 231	227 — 230	227 — 230
40	Do. New	5	53 — 55 pm	53 — 55 pm	53 — 55 pm	52 — 55
30	Do. New	15	35 — 37	35 — 37	35 — 37	36 — 37
15	Do. New	1½	17 — 18 pm	17 — 18	17 — 18	17 — 18
100	Great Western	85	61 — 63 pm	59 — 61 pm	54 — 57 ex n	52 — 55
50	Do. ½ Shares	50	32 — 34	31 — 33	30 — 32	29 — 31
25	Do. ¼ Shares	10	12½ — 13½	12 — 13	10½ — 11½	10 — 11
20	Do. Fifths	20	12½ — 13½	12½ — 13½	11½ — 12½	11 — 12
17	Do. New	—	— — —	— — —	— — —	— — —
50	Guildford, Fareham, & Portsmouth	5	— — —	— — —	— — —	— — —
50	Hull and Selby	50	105 — 105	104 — 106	105 — 107	105 — 107
12½	Do. ½ Shares	12½	8½ — 9½ pm	8½ — 9½ pm	8½ — 9½ pm	8½ — 9½
25	Do. ¼ Shares	25	25 — 26 pm	25½ — 26½	25½ — 26½	25½ — 26½
25	Ipswich and Bury St. Edmund's	11½	— — —	— — —	— — —	— — —
25	Do. Ipswich and Bury and Norwich	2½	— — —	— — —	— — —	— — —
50	Lancaster and Carlisle	45	18 — 20 pm	17 — 19 pm	16 — 18 pm	15 — 17
50	Do. New	5	54 — 6½ pm	5 — 6 pm	5 — 6 pm	5 — 6
50	Leeds and Bradford	26	43 — 45	43 — 45 pm	43 — 45 pm	44 — 45
20	Leicester and Birmingham ..	22s.	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	1 — 0½
20	Leicester and Bedford	22s.	— — —	— — —	— — —	— — —
25	Liverpool, Manchester, and Newcastle Junction	2½	— — —	— — —	— — —	— — —
Average	London and Blackwall	16.13.4	8 — 8½	7½ — 8½	7½ — 7½	7½ — 8½
50	Do. New	3	1½ — 1½ pm	1½ — 1½ pm	1 — 1½ pm	1½ — 1½
50	Do. Extension	5	— — —	— — —	— — —	— — —
50	London, Brighton & Sou. Coast	60	62½ — 63	61½ — 62½	59½ — 60½ ex n	58½ — 60½
50	Do. Do. Fifths	40	10 — 11 pm	10 — 11 pm	8 — 9	7½ — 8½
Average	London and Croydon	13.15.9	22½ — 23½	22½ — 23	22 — 22½ ex n	21½ — 22½
9	Do. Guaranteed 5 per Cent.	9.0.0	9 — 1½ pm	9 — 1½ pm	9 — 1½ pm	9 — 1½
Average	London and Greenwich	12.15.4	9 — 9½	9 — 9½	8½ — 9½	9 — 9½
Average	Do. Preference or Privilege	18.17.2	21 — 23	21 — 23	21 — 23	21 — 23
Average	London and North Western..	100	204 — 2 6	198 — 200	199 — 201	199 — 201
25	Do. Quarters	2	21 — 23 pm	20 — 22 pm	21 — 23 pm	21 — 23
25	Do. do. New	2	15 — 16 pm	14½ — 15½	14½ — 15 pm	14½ — 15½
20	Do. Fifths	2	18 — 20 pm	17 — 19	17 — 19 pm	17 — 19
12½	Do. Eighths G. J.	12½	— — —	— — —	— — —	— — —
25	Do. New ¼ Shares G. J. ..	5	— — —	— — —	— — —	— — —
40	Do. 40 Shares L and M ..	8	— — —	— — —	— — —	— — —

RAILWAY SHARE LIST—continued.

Shares.	Railways.	Paid.	CLOSING PRICES.			
			September 4.	September 11.	September 18.	September 25.
Average	London and South Western..	41,6.10	70 — 73	70 — 72	70 — 72	69 — 71
40	Do. New Consol Rights..	40	13 — 15 pm	13 — 15 pm	13 — 15 pm	13 — 15
50	Do. New	17½	8 — 9	8 — 9	8 — 9	8 — 9
40	Do. New	14	5½ — 6½	6 — 7	6 — 7	6 — 7
25	London and York	2½	½ — ½ dis	½ — ½ dis	½ — ½ dis	½ — ½
25	Do. ¼ Shares	2½	.. ..	.. ..	.. ..	.. ..
50	London, Salisbury, and Yeovil.	2½	1½ — 1½ dis	1½ — 1½ dis	1½ — 1½ dis	1½ — 1½
50	Londonderry and Coleraine..	12½	.. .. dis	.. .. dis	.. .. dis	.. ..
50	Londonderry and Enniskillen	12½	.. ..	.. ..	.. ..	.. ..
25	Lynn and Ely	15	.. .. pm	.. ..	.. ..	.. ..
25	Lynn and Dereham	15	.. .. dis	.. .. dis	.. .. dis	.. ..
100	Manchester and Leeds	82	30 — 35 pm	28 — 32 pm	23 — 28 ex d	23 — 28
50	Do. ¼ Shares	38	14 — 16	13 — 15	10 — 12	10 — 12
25	Do. ¼ Shares	2	5½ — 6½	5 — 6	4 — 5½	4½ — 5½
20	Do. Fifths	3	7½ — 8½ pm	7 — 8 pm	6 — 7	6 — 7
6½	Do. Sixteenths	6½	2½ — 2½ pm	2 — 2½ pm	1½ — 2½	1½ — 2½
20	Do. Extension	42s.	2½ — 2½ pm	2 — 2½ pm	1½ — 2½	1½ — 2½
4	Manchester and Birmingham	40	77 — 79	77 — 79	75 — 77	75 — 77
10	Do. ¼ Shares, A	5	8½ — 9	8½ — 8½ pm	7½ — 8½ pm	7½ — 8½
10	Do. do. B	5	8½ — 9	8½ — 8½ pm	7½ — 8½	7½ — 8½
20	Do. do. C	1	7½ — 8	7½ — 8	7½ — 8	7½ — 8
20	Manchester, Baxton and Matlock	42s.	1½ — 1½ pm	1½ — 1½ pm	1½ — 1½ pm	1 — 1½
20	Manchester and Southampton	2	½ — ½ dis	½ — ½ dis	1 — 1½ dis	1 — 1½
Stock	Midland	100	139 — 141	137 — 139	137 — 139	136 — 138
40	Do. New	24	12½ — 13½ pm	12 — 13 pm	11½ — 12 pm	10½ — 11½
Stock	Do. Birmingham and Derby	100	112 — 114	111 — 113	110 — 112	109 — 111
25	Newcastle and Berwick	15	12 — 13½	12½ — 13½ pm	12 — 13 pm	11½ — 12½
25	Newark, Sheffield and Boston	1½	.. .. dis	.. ..	.. ..	.. ..
25	Newmarket and Chesterford ..	2.2	.. ..	.. ..	.. .. pm	.. ..
Stock	Norfolk	100	132 — 135	130 — 134	130 — 134	129 — 135
10	Do. ¼ Shares	7	3 — 4	3 — 4	3 — 4	3 — 4
20	Do. Extension	2	.. .. pm	.. .. pm	.. .. pm	.. ..
25	North British	25	12½ — 13½	12½ — 12½ pm	11½ — 12 pm	10 — 11
12½	Do. ¼ Shares	11	5½ — 5½ pm	4½ — 5½	4½ — 5½	4½ — 4½
5	Do. Fifths	5	.. ..	.. ..	.. ..	.. ..
12½	Do. Carlisle Extension	1½	2½ — 3	2½ — 3 pm	.. ..	2½ — 2½
50	Northern and Eastern	50	72 — 74	72 — 74	70 — 72 pm	70 — 72
50	Do. Serp (issued at 5 disc.)	45	22 — 24	22 — 24 pm	21 — 23 pm	20 — 22
12½	Do. ¼ Shares	12½	18 — 19	18 — 19	17½ — 18½	17½ — 18½
20	Do. New	1	20 — 22 pm	20 — 22 pm	19 — 21 pm	18 — 21
50	North Kent and Direct Dover	2½	.. .. dis	.. .. dis	.. ..	.. ..
20	North Staffordshire	42s.	3½ — 3½ pm	3½ — 3½ pm	3½ — 3½ pm	2½ — 2½
20	Northampton, Banbury, and Cheltenham	2	½ — ½ dis	½ — ½ dis	½ — ½ dis	½ — ½
50	Oxf., Worcester, and Wolverh.	12½	4½ — 4 dis	4½ — 4½ dis	4½ — 4½ dis	5½ — 4½
50	Portsmouth Direct	34	1½ — 1½ pm	1 — 1½ pm	.. ..	1
25	Preston and Wyre	25	34½ — 35½	33½ — 34½	33 — 34	31 — 32
20	Do. ¼ Share	4½	.. ..	.. ..	.. ..	.. ..
100	Rugby and Leamington	42s.	.. ..	.. ..	.. ..	.. ..
25	Sheffield and Manchester	10	.. ..	.. ..	.. ..	.. ..
25	Do. Ditto and Lincolnshire Junction	1½	.. ..	.. ..	.. ..	.. ..
50	Do. and Great Grimsby	10	.. ..	.. ..	.. ..	.. ..
20	Do. do. Extension	42s.	.. ..	.. ..	.. ..	.. ..
25	Scottish Central	12½	6½ — 7½ pm	6 — 7 pm	6 — 7 pm	6 — 7
25	Scottish Midland	10	3 — 1 dis	3 — 1 dis	3 — 1 dis	3 — 1
25	Shrewsbury, Wolverhampton, and St. Staffordshire Junr.	2½	.. ..	.. ..	.. ..	.. ..
25	Shrewsbury and Birmingham	2½	½ — ½ pm	½ — ½ pm	½ — ½ pm	par — ½
20	Shropshire Union	42s.	½ dis — par	½ dis — par	3 — 1 dis	3 — 1
50	South Devon	35	3 — 1 dis	3 — 1 dis	3 — 1 dis	3 — 1
Average	South Eastern and Dover	53,2.4	42 — 43	42 — 42½	40 — 41 ex d	38½ — 39½
50	Do. New (issd. at £23) No. 1.	20	4½ — 5½ pm	4 — 5 pm	3 — 4	3 — 4
50	Do. New (£33 6s. 8d.) No. 2.	12	4 — 5 pm	3½ — 4½	2½ — 3½	1½ — 2½
50	Do. New (£23) No. 3.	15	4 — 5 pm	3½ — 4	2½ — 3½	1½ — 2½
25	Do. New (issd. at £15) No. 4.	2½	½ — ½ pm	½ — ½ pm	4 — 4½ pm	par — ½
20	Staines and Richmond	1	½ dis — ½ pm	½ dis — ½ pm	par — ½ pm	par — ½
20	St. Alban's, Hatfield, & Hertford Junction	42s.	.. ..	.. ..	.. ..	.. ..
50	South Wales	5	½ — ½ dis	½ — ½ dis	1 — 0½ dis	1½ — 0½
20	Vale of Neath	2	.. ..	.. ..	.. ..	.. ..
20	Warwickshire and London	42s.	.. ..	.. ..	.. ..	.. ..
20	Waterford and Kilkenny	11	5½ — 4½ dis	5½ — 4½ dis	5½ — 4½ dis	5½ — 4
20	Waterford, Wexford, Wicklow, and Dublin	1½	.. ..	.. ..	.. ..	.. ..
50	Wexford, Waterford, & Valen.	1½	1½ — 1 dis	1½ — 1 dis	1½ — 1 dis	1½ — 1
20	Welsh Midland	2½	1½ — 1½ dis	1½ — 1½ dis	1½ — 1½ dis	1½ — 1
20	West Riding Union	42s.	2½ — 3 pm	2½ — 3 pm	2 — 2½ pm	2 — 2½
50	Wills, Somerset, & Weymouth	10	5 — 4 dis	4 — 4 dis	5 — 4 dis	5½ — 4
50	York and Carlisle	2½	2½ — 1½ dis	2½ — 2 dis	2 — 2½ dis	2 — 2
25	York and Newcastle	25	.. ..	.. ..	.. ..	.. ..
25	Do. New	1	.. ..	.. ..	.. ..	.. ..

Shares.	Railways.	Paid.	CLOSING PRICES.			
			September 4.	September 11.	September 18.	September 25.
£		£				
50	York and North Midland ..	50	96 — 98	95 — 98	95 — 98	94 — 97
25	Do. 1/2 Shares ..	25	48 — 48	46 — 48	46 — 48	45 — 47
25	Do. Scarborough Branch	25	46 — 48	46 — 48	46 — 48	45 — 47
50	Do. Selby	40	40 — 48 pm	40 — 48 pm	40 — 48 pm	39 — 48 pm
25	Do. Extension	30	8½ — 19½	18½ — 19½	18½ — 19½	18 — 19
	Do. E. & W. Riding Extensn.	1	11 — 12 pm	11½ — 12½ pm	11½ — 12½ pm	11 — 12 pm

FOREIGN RAILWAYS.

25	Barbedos	1	.. — ..	dis	.. — ..	dis	.. — ..	dis	1½ — 1½	dis
20	Boulogne and Amiens	16	½ — ½	dis	½ — ½	dis	½ — ½	dis	1½ — 1½	dis
20	Bordeaux, Toulouse, & Cetta, (Mackenzie's)	2	½ — ½	dis	½ — ½	dis	½ — ½	dis	1½ — 1½	dis
20	Bordeaux, Toulouse, & Cetta, (Espaleto's)	2	½ — ½	dis	½ — ½	dis	½ — ½	dis	1½ — 1½	dis
	Calcutta & Diamond Harbour	7s.	.. — ..	dis	.. — ..	dis	.. — ..	dis	1½ — 1½	dis
20	Central of Spain	2	1½ — 1½	dis	1½ — 1½	dis	1½ — 1½	dis	1½ — 1½	dis
	Ceylon	5s.	.. — ..	dis	.. — ..	dis	.. — ..	dis	1½ — 1½	dis
	Demerara	2½	dis — par	dis	dis — par	dis	dis — par	dis	dis — par	dis
50	Dendre Valley	4	2 — 1½	dis	2 — 1½	dis	2 — 1½	dis	2 — 1½	dis
20	Direct Bombay and Madras	5s.	.. — ..	dis	.. — ..	dis	.. — ..	dis	1½ — 1½	dis
20	Dutch Ehenish	6	dis — ½	pm	1½ — ½	dis	1½ — 1	dis	1½ — 0½	is
	East Indian	5s.	.. — ..	dis	.. — ..	dis	.. — ..	dis	.. — ..	dis
	Great Indian Peninsula	5s.	.. — ..	dis	.. — ..	dis	.. — ..	dis	.. — ..	dis
	Great Western Bengal	5s.	.. — ..	dis	.. — ..	dis	.. — ..	dis	.. — ..	dis
22½	Great Western Canada	3½	.. — ..	dis	.. — ..	dis	.. — ..	dis	.. — ..	dis
	Italian and Austrian	3	.. — ..	dis	.. — ..	dis	.. — ..	dis	.. — ..	dis
20	Jamaica South Midland Junc.	1	dis — par	dis	dis — par	dis	dis — par	dis	dis — par	dis
	Jersey	1	½ — ½	dis	½ — ½	dis	½ — ½	dis	½ — ½	dis
	Louvain à la Sambre	5	½ — 3½	dis	4½ — 4	dis	4½ — 6	dis	4½ — 4	dis
	Lyons and Avignon	2	.. — ..	dis	.. — ..	dis	.. — ..	dis	.. — ..	dis
20	Luxembourg	4	2½ — 2½	dis	2½ — 2½	dis	2½ — 2½	dis	2½ — 2½	dis
	Madras, Nellore, and Arcot ..	0½	.. — ..	dis	.. — ..	dis	.. — ..	dis	.. — ..	dis
20	Namur and Liege	6	3½ — 3½	dis	4½ — 3½	pm	4½ — 3½	pm	4½ — 4½	dis
20	Northern of France (constitd.)	5	8½ — 8½	pm	8½ — 5	pm	8½ — 9	pm	8½ — 8½	pm
20	Orleans and Vierzon	10	4½ — 5	pm	4½ — 5	pm	4½ — 5½	pm	4½ — 4½	pm
20	Orleans and Bordeaux	6	2½ — 2½	pm	2½ — 2½	pm	2½ — 2½	pm	2½ — 2½	pm
20.16.8	Over-Yssel	4.3.4	3 — 2½	dis	3 — 1½	dis	3 — 1½	dis	3 — 3	dis
	Paris and Lyons (constituted)	5	1 — 1	pm	1 — 1	pm	1 — 1½	ex int	1 — 1	pm
20	Paris and Orleans	20	48 — 49	dis	48 — 49	dis	48 — 49	dis	48 — 49	dis
20	Paris and Rouen	20	37 — 38	dis	37 — 38	dis	37 — 38	dis	37 — 38	dis
20	Paris and Strasbourg (const.)	5	8 — 8	dis	8 — 8	dis	8 — 8	dis	8 — 8	dis
20	Rouen and Havre	20	27½ — 28½	dis	28 — 29	dis	28 — 29	dis	27 — 28	dis
20	Sambre and Meuse	8	4½ — 4½	dis	4½ — 4	dis	4½ — 4½	dis	4½ — 4½	dis
14	Strasbourg and Bale	14	7½ — 8	dis	7½ — 8½	dis	8 — 9	dis	8 — 9	dis
20	Tours & Nantes (constituted)	6	dis — ½	pm	dis — ½	pm	dis — ½	pm	dis — ½	pm
20	West Flanders	6	2½ — 1½	dis	2½ — 3	dis	2½ — 2½	dis	2½ — 3	dis

PROCESS OF INVESTMENT IN RAILWAYS.—THE SHARE SYSTEM.

BY HYDE CLARKE, Esq.

HAVING shown the peculiar sources from which the capital for railways in England is obtained, the next step is to show the mode of application. The same laws will govern this, whatever the theory of the origin of the capital.

The mode in which capital is applied to the construction of railways is as little understood as the source whence derived. Bankers know nothing about it—stockbrokers do not; and although this may at first sight seem anomalous, it can readily be explained. The practice of their respective employments gives them only a limited view of the operations concerned, and it would be extremely difficult for either party to acquire a theory, which must be worked out by extensive experience and by close application. There are no books which treat of the subject at all, and there are no masters to teach them anything except error. To attempt to learn is to get confused with conflicting opinions and assertions, and a slight experience in the study of the operations of currency will be quite sufficient to deter most men from the pursuit of knowledge which is not indispensable for the conduct of this business.

Share investment is, in its present extended form, a new feature in political economy, and there has not therefore been time for the adoption of settled doctrines, scarcely for accurate and extended observation of facts, which can be the only sound basis for a useful theory. The few parties who have engaged in the study have found themselves baffled and left behind in the gigantic march of events; the observations which in the infant state were scarcely matured, were of little assistance in the study of the more advanced organization; the grub has become a chrysalis before we had mastered its physiology, and we have not time to watch it in its new form, ere it wings its flight as a butterfly. The railway system from calls of £100,000 a-year advanced to £1,000,000, from £1,000,000 to £4,000,000, and now its demands are £40,000,000, and are supplied. A higher organization is more complicated in its members and its functions, and the study of them has been impeded by investigations into the present and future condition of the system, which have diverted attention from the careful consideration of the existing facts. Bankers found themselves threatened by a monster, which, in its cravings, seemed ready to swallow up the capital and resources of the country, or to turn it into unwonted channels. When a man sees an alligator opening a tremendous mouth directly opposite his head, he does not set to work to count the vertebræ, and trace the action and connection of the muscles of the jaw, but he looks to his own immediate safety; and thus it has been with the railway system, and those engaged in it. They have not had the opportunity of investigation, and they cannot therefore have learnt; and this is no reflection on them, nor is it one that they are never likely to teach themselves. The study of this subject demands, as has been said, an exclusive and particular devotion to collect facts and mature observations, before it can be so far advanced as to admit of the ready adoption and acceptance of men

engaged in the active and practical pursuits of life. The history of all sciences is the same, if political economy reckons Sir Josiah Child or David Ricardo among its teachers; the majority, as De Foe, Locke, Hume, Adam Smith, Quesnai, Turgot, Mill, Malthus, and MacCulloch belong to quite another class; they were students in the closet and not in the counting-house. Indeed, the opinion of your practical man is rarely of value, except on matters of practice, which, however valuable in themselves, can only be soundly applied by the aid of well-directed theory.

In some cases, however, the theory is of more value than the practice, for it is much more important to know how and whether a railway system can be carried out for the good of the commonwealth, than to know whether an advance on shares should be made, or how a transfer can be most quickly effected. The public have been alarmed; the foremost men in the railway interest have been attacked, because there is a want of adequate knowledge as to the real operations of the system. This is our defence for our own exertions, and we court investigation, because, if wrong in our statements, still, as we have pointed out the mode of inquiry, we have opened the road to truth. The questions at issue cannot be settled by the dicta or imaginings of any individuals or any body of men; but, as in all scientific discussions, the evidence of facts must be appealed to, as the real test. It is a good thing to say that railways press on the resources of the country, or that a diversion of capital from our manufactures is taking place; but the test must be applied; and on applying this test, as the *Banker's Magazine** at length has done, the assumption is found inconsistent with the low rate of interest, and the £10,000,000 lying in the Bank of England unemployed. If we discuss every other branch of the subject in the same spirit, we shall assuredly be led to those results which are most certain and most satisfactory.

It must be borne in mind that, whatever the theory, as to the origin or source of the capital for railway purposes, the mode of application will be governed by the same laws, and, therefore, whether railways be made by surplus capital or savings, by the greater energy of existing means, or, as we believe, partly from the increased resources of the country, and partly from the greater energy of existing means, the mode in which the landowner and contractor are compensated, and the navigator fed, will be identically the same. If we have pointed out the true theory, as to the capital, we may have simplified that part of the subject; but if we have not, it need not prejudice our treatment of the mode of distribution. We profess only to offer delineations and explanations of the process, which, although mysterious to the public and imperfectly comprehended on the Stock Exchange, only requires careful observation to be appreciated in its simplicity.

The subject will resolve into two parts, first, the operation of the application of capital in this country under the existing system, and next, a consideration of the several systems of application. This, though not the philosophical course, is adopted, because it will be most readily apprehended by practical men, but it necessarily, in the first place, involves the unquestioned admission of the joint-stock system.

* *Banker's Magazine* for October.

The investment of capital in railways, as it is commonly called, really involves two distinct operations—the investment of capital and the transfer of capital. The navigator, for instance, who constructs an embankment, and the landowner, who sells land, will be remunerated in a very different manner. The navigator must be maintained with food, warmth, and clothing; the landowner, having received the price of his estate, must seek a new mode of investment, which will give him a yearly income. The two operations are, therefore, completely distinct. The landowner might be satisfied, as he has been sometimes, with railway scrip, with the shares reserved for him, and there is an end of the transaction, without the general or market operations of capital being at all interfered with; not so the labourer, he cannot eat railway scrip, and the end is, that he must be supplied with solid bread and meat, which must in some way be sought for him.

The capital nominally expended in railway construction is, in considering the real amount, to be reduced by the whole amount of capital transferred, and this constitutes an important item in all investigations of the amount of capital really required from the country.

The proportion of capital, merely transferred, is so very large, that it reduces to a very small relative extent the call upon the resources of the country, though it is never taken into account in the vulgar discussions on the subject. The result is some of those gross misapplications of figures and sums, which tend to the delusion of the ignorant, and the depreciation of the authority of statistical science. Unless we could muster, by forced levies, a body of labourers, as Cheops did, for his great pyramid, and levy the food too, and form a numerical account of the pulse and onions consumed, we should never be able to learn the real drain on the resources of the country. The figures of £140,000,000, authorised to be expended in railways this session, are as delusive as the figures of the public revenue, in any year of the last war, and require the same caution in making use of them. The £140,000,000 do not, however, represent even the nominal amount expended, because there are charges paid by the investor as stamps and brokerage, and, in many cases, interest, which go to constitute to an individual the actual cost of investment, and which might be just as usefully reckoned for any practical purpose.

What is called the transfer of capital requires a separate consideration. Mr. Hudson, in his place in parliament this year, when showing that no danger was to be expected from the increased extension of railways, forcibly dwelt upon the importance of the operation of what he distinguished as transfer of capital. This must not be confounded with a popular delusion of some of the railway advocates, that it matters not what amount we expend in railways, as it is a mere matter of transfer of capital among ourselves. What Mr. Hudson distinguishes as the transfer of capital, only refers to the operation we have already defined. The operation is, however, really a new allotment or distribution of the resources of the country, and not a simple transfer of capital. So much food-producing ground is taken out of the common stock, and a food and material increasing machine is brought into its place, and a new total is formed, which has to be shared out afresh. We should, therefore, call it re-distribution of capital, if the term of transfer of capital, although ambiguous, were not better understood. The practice

of needless varying nomenclature cannot be enough condemned, and surely it is a greater merit to introduce a new fact, than to invent a new word.

The transfer of capital in railway matters takes place, as has been already said, to a great extent. From careful consideration of the existing lines, Mr. Hudson estimated the outlay for land at 20 per cent., which, on the £140,000,000 of this session will at once effect a reduction of the supposed real capital to £112,000,000, or supposing a yearly nominal expenditure of £40,000, the supposed real yearly expenditure will be reduced to £32,000,000.

Transfer of capital takes place in the profits of contractors, ironmasters, engineers, lawyers, &c. It also takes place on the profits of the labourers, and the tradesmen with whom they deal; and it is this part of the operation which has deluded many people into the imagination that railway investment has no limit, and is conducted in this mode. The extent to which transfer of capital really does go is very great. In the article of bread "transfer" is involved in the "profits" beyond subsistence of the baker, the mealman, the miller, the corn merchant, the carrier, the implement maker, and the farmer, perhaps of the agricultural labourer; it is also involved in all their purchases of other dealers, and in many cases it forms part of the rent of land.

It is by no means improbable or impossible that the produce cost of railways is a very small per centage of the nominal amount, perhaps 20 per cent., perhaps 10 per cent. At any rate, we are safe in taking off the 20 per cent. for land, on Mr. Hudson's calculations, and on taking off at least 20 per cent. for appreciable profits. If contractors get 10 per cent., as Mr. Hudson, to be on the safe side, took as his minimum average, sub-contractors and gangers must have their profits; and on most earthworks this will come to 30 per cent. It is also a question whether transfer of capital is not largely concerned in the royalties for brick earth, stone, lime, and iron ore. At any rate, these materials might be acquired by the transfer of capital. Timber will also come under the same category, for, being a crop of long growth, it is also one of long consumption.

Transfer of capital is in many cases complicated, but an understanding of it in its simpler forms will be quite sufficient for all practical purposes. The simplest form is where the landowner at once exchanges his land for a nominal value in railway shares. It, however, takes place most frequently with parties immediately connected with the proposed railway. It is well known that the engineers and lawyers generally have some stake in the concern, and it is not uncommon for ironmasters and other contractors to hold largely in it. Contracts have sometimes been let on the express stipulation that the contractor should take a certain proportion of the price in shares, and he again has made similar terms with his contractors.

Here the operation can be well understood, and it will be seen that if a whole railway could be constructed in this way, that the money market would have no concern in the transaction. If a landowner could be persuaded to take railway scrip, or South Sea, or Mississippi scrip, and keep it instead of his land, it is clear that whatever nominal amount may be involved, no disturbance of the floating capital of the country

takes place. These simple operations are, however, few, and where a transfer of capital does take place, it is not direct, and is consequently not rapid; and here, even those who are acquainted with the act of transfer of capital are apt to err, and it is here where, even in the transfer of capital, an interference with the floating capital of the country takes place.

By most of those who admit the transfer of capital, it is assumed in its operations as virtually instantaneous, and this arises from a confusion of ideas from a common source of error, treating the transfer at one time as a question of fixed capital, at another as a matter of money, and not preserving the distinction. Hence they say that the money paid for the land gets into circulation at once, which is perfectly true, so far as the bullion handed over is concerned; but it is not true that the transaction thereby created is at once settled, and hence the embarrassment. We also leave entirely out of the question the finding of the money for the landowner.

The settlement of this point is of particular importance to the monetary interests of the country, because, as it will be hereafter seen, the embarrassment of the process of transfer or investment impedes, not merely the small actual expenditure of capital, which is the real demand on the resources of the country, but the adjustment of the artificial expenditure, against which no legitimate objection can be raised. No one would object to 100,000 miles of railway being laid down in this country, if they could be laid down without calling upon the resources of the country. If this could be done, all would allow that it would be a national benefit. If it can be proved that the railways required can be completed with only an inconsiderable drain, or without any injurious drain on the resources of the country, we apprehend that in such case it is desirable to give every facility for their completion.

In the case of a landowner, for example, there are very strong reasons why the transfer should not be direct, and that is because he is required to give up an immediate income for a deferred income, and also a certain income for an uncertain income. It may be perfectly true that the railway income will in all probability be greater than the land income, but perhaps the immediate wants of the landowner, or the absence of other sources of subsistence, do not enable him to await the realisation of a deferred income. Hence, a re-transfer must necessarily take place, and time is required for this.

There is also a further reason why, in the case of landowners, the process of transfer is protracted, and that is from the influence of habit. Landowners are not by their pursuits familiarised with the operations of capital; and hence, instead of being disposed to railway investment, they are rather averse from it; and men who do not suppose themselves destitute of sense will gravely acknowledge, as a matter of pride, that they have never invested in railways, and never will. While they can envy the success of railway capitalists, their ignorance and their prejudices prevent them from following the same career, and the prudent and profitable investment of money is confounded by them with gambling and speculation. At any rate, they will not invest in new railway shares.

The landowner has less diffidence as to 3 per cent. consols, and he can, without compunction, invest in them. The fundholder yearns for a higher interest than his 3½ or 3¼ per cent., but neither is he from

knowledge or habit disposed to enter into what he calls speculations. He understands the character and solidity of Birmingham stock, and is quite content to get it at 4 or $4\frac{1}{2}$ per cent., but by no means will he go into new railways; indeed, he does not invest from any railway predictions, but simply on the ground of an assured income. So far as he is concerned, the railway system might remain in abeyance.

The holder of Birmingham stock may perhaps be an original holder, inclined to realise, or an investor who has profited by the improvement of the stock, and he is disposed to sell at a good price, but he re-invests in something which may give him a higher interest, and which, not having reached the maximum of 10 per cent., is capable of improvement. He re-invests perhaps in Midland, and the seller of Midland in Brightons or Eastern Counties, each realising a small profit on his past investment, securing a present return, and taking the prospective chance of another improvement.

The next stage in the scale is a step in advance, but the transfer into the new railway scrip may yet be deferred. The seller of shares in railways which are opened for traffic and deriving an income may be disposed to wait for the realisation of income, but he may not choose to trust to chance, and prefers investing in the shares of new companies, guaranteed at 4 or 5 per cent. by the North Western, the Midland, or Great Western. The seller of these is in a position to venture in an untried line, which may yield him another profit, and when, at length, the re-transfer is effected, it is only by many stages, and with considerable delay.

The separation of the several classes of dealers, and the graduation of the process, was pointed out by the writer of these pages in 1835 and 1836, in reference to the proposed restrictions of Mr. Spring Rice, and will be found developed in several parts of the *Railway Magazine*, in which the earliest investigations on this subject were brought forward.

The general accuracy of this delineation is familiar to the members of the Stock Exchange, and they find distinct classes of customers in the stock market, the share market, and the scrip market. The experience of most shareholders will also afford a partial confirmation.

In times of depression, not only will the number of stages in the process of "transfer of capital" be many, but the time occupied in passing each stage will be protracted. The landowner must buy before the consol owner can go into the market, and so at each step; and the experience of the Stock Exchange will suggest that the settlement of each account will require a greater degree or less degree of time, which may be greatly influenced by a prevalent feeling of want of confidence.

In times of prosperity, as they are termed, not merely will the time required in each process be lessened, but the whole number of processes will be less, because, a feeling of confidence prevailing, the landowner may be tempted with Birmingham stock, and the Birmingham stockholder may buy into Eastern Counties, or some depressed old line; the Eastern Counties shareholder may also leap a step, and purchase new shares. Thus, the "transfer" may be effected in fewer weeks, at such a crisis, than it can be effected in months at other times.

The period of "transfer" may, undoubtedly, in a disturbed state of the money market, be protracted many months, perhaps a year, and the embarrassment may be most severe.

Again, postponing the consideration of how the floating capital is to be found to make the money tender to the landowner, we shall pause to point out that the simple process of "transfer of capital" requires the use of floating capital. If a landowner is to be paid £5,000, that sum must be provided for him, and kept at his disposal, until he re-invests. It is true that no money may pass, and that a cheque may go into one side of the banker's books and pass out of the other, but the individual operations will be, to a certain degree, embarrassed by the non-disposability of the £5,000, or rather of a portion of it. So, at each stage, an amount of floating capital may be rendered useless, until the completion of the "transfer;" and as this may last many months, it may become productive of considerable embarrassment, just in the same way as the obstinacy of the government caused embarrassment, by locking up the railway deposits for a short time in the hands of the Accountant General in Chancery. It is true the amount of floating capital required for railway purposes is less than is generally supposed, and in a time of prosperity is not felt; but in a time of depression, it is fully capable of aggravating other causes of embarrassment.

It will be seen that in the end, and so far as the community and the operations of capital are concerned, the "transfer of capital" amounts to no more than giving the landowner railway shares for his land. We have hitherto been engaged in showing how these shares travel through the stages of transfer, but, as has been intimated, there is a preliminary process, which is, that floating capital must be found to make the tender of the purchase-money. This, under favorable circumstances, may, as we have shown, be required only for a small amount, and for a short time; but if depression and want of confidence prevail, there must be a call for a larger amount during a longer time. The holder of floating capital is now introduced to take his part in the transaction, and he must be remunerated by a participation in the new railway stock. In ordinary times, the demand for the floating capital is of little importance, although the amount required may be nominally larger; but in the times of depression railways come to be considered with other claimants, and less favourably, and a pressure is put upon the whole operations by the exorbitant demands for the use of capital.

If depression extends to panic, the price of unguaranteed and guaranteed scrip goes to a discount; Brighton shares go down, so do Midland and Birmingham stock and consols. Holders of the superior securities are unwilling to sell at prices which are either below those at which they purchased, or below the price they have affixed upon them. It is true the relative prices of the several articles of investment remain unaltered, but the whole system is stopped; and no interchange takes place, however willing the scripholder may be to sell on any terms of sacrifice. This is a state of affairs well known on the Stock Exchange, where each of the markets acts in common, and where transactions in the higher securities are indispensable necessary for those in the lower.

It is not absolutely necessary, theoretically, that this should be the case, though it is so. The fact is, that if the income were looked to instead of the principal, much better transactions could be made in a time of panic than in a time of prosperity by conversion from the higher to the lower securities, because the lower securities always de-

preciate more in proportion. Thus, at the present moment, a sale of £1,000 Great North of England, paying 10 per cent, would purchase £2,277 Manchester and Leeds, paying £5 14s. 6d. per cent., the former having reached its maximum dividend, and the latter being, as it were, in its infancy :—

	£	
£1,000 Great North of England stock at 230=		2,300
£2,300=£2,277 Manchester and Leeds at 101		
Dividend on £1,000 Great North of England at £10=		100
” ” 2,277 Manchester and Leeds at £5 14s 6d.=		130

Such a transaction as this would ultimately prove, even as to capital, a good transaction, but few look so much to the increase of income as to the increase of capital. The consequence is, when the price of capital is affected, the market is stopped.

The transfer of capital in the case of contractors and other profits is frequently still more complicated. The contractor or tradesman, though he work for a railway, may have no great liking for investing in it, and may prefer an investment in land or on mortgage; and thus the operation becoming more complicated, becomes more protracted.

“Transfer of capital” will affect interest paid during the construction of works, directors’ salaries, the profits or surplus earnings of railway secretaries and other functionaries.

Taking promiscuously the expenditure of eight various lines, the Great Western, Eastern Counties, Manchester and Birmingham, Northern and Eastern, Taff Vale, Dublin and Lancaster, and Preston, and Sheffield and Manchester—the gross expenditure is £15,500,000.

The distribution of this expenditure is as follows :—

	£.	Per centage.
Parliamentary - - -	440,000	2·8
Surveying and Engineering - - -	375,000	2·3
Law - - -	185,000	1·1
Direction and office - - -	170,000	1·0
Works - - -	8,350,000	53·0
Land - - -	2,700,000	17·0
Rails - - -	1,900,000	12·0
Locomotives - - -	545,000	3·5
Carriages - - -	500,000	3·0
Interest - - -	unascertained	5·0 ?
Total - - -	15,500,000	

The minimum proportion constituting an early “transfer of capital,” may be taken as follows :—

		Per centage.
Miscellaneous - - -	-	5
Land - - -	-	17
Works - - -	-	18
Rails - - -	-	4
Locomotives and carriages - - -	-	3
Interest - - -	-	5
Total - - -	-	52

This would, on a yearly nominal expenditure of £40,000,000, effect a reduction to £19,200,000.

A further analysis would enable us to make a considerable reduction for the surplus profits of the labourers, and the surplus profits of the shopkeepers on the supply of produce. If these were taken at one-third, the real money amount of capital might be thus reduced—

	Per centage.
Works - - - -	13
Rails, locomotives, &c. - - -	4
	—
Total - - - -	17

On a yearly nominal expenditure of £40,000,000, the supposed real amount of capital to be expended would therefore be reduced to £12,400,000, a sum not so large to be dealt with as to present insuperable difficulties. Whether the real amount is not smaller, it would be presumptuous to say.

Having considered the process of "transfer of capital," we have next to examine that of the investment of capital, which has just been shown, is on a much smaller scale than is supposed, while if, as we have previously explained, this capital is chiefly an appropriation of unproductive labour, the burthen on the resources of the country must be much diminished.

The capital for the construction of railway works, or, in reality, the food and subsistence of the labourers employed, has to be collected in small and numerous portions from a great many sources. The surplus corn of the farmer, the cattle of the grazier, the corn rent of the landowner, the coal of the coalowner, the cotton and woollen of the manufacturer, contribute to the supply, which is also derived from the fractional portions of commodities constituting the profits of stock of the merchant and shopkeeper. It is needless to enlarge on the necessity for some artificial machinery by which these supplies may be collected and distributed when and where wanted. The merest tyro in the study of the wealth of nations, is able to enforce this.

We may, however, make a pause here and observe, that the maintenance of the navigators and other labourers does not necessarily involve a heavy strain on the limited resources of the country. The labourer is not solely supplied with food, with animal and vegetable produce, but he consumes largely those articles of manufacture, which can be increased by a greater energy of production. This, however, is within limits, for the materials of woollens, linens, and cottons must be found, although the make may be supplied by a greater energy of existing means.

If the simple "transfer of capital" involves a complicated process, the collection and distribution of the real capital required cannot, from the operation of similar causes, be effected in a manner more expeditious.

If the habits and education of the landowner do not prepare him for the operations of railway investment, still less do those of the farmer or shopkeeper, even where he has a railway at his door. The landowner has a clearer and more immediate call to accept railway shares, for he has to give up his land, but the farmer or shopkeeper has no direct or apparent call for this investment. The manufacturer, merchant, or wholesale dealer, may perceive his interest in a participation in the

improvements of his district, he may be able to conceive the process by which the increase of business may give him the means of investment, and he is the local party who invests. The farmer or shopkeeper has a less direct interest and a smaller stake.

The wants of individuals vary. While one man may be disposed to increase his fixed capital, to invest in land, consols, or on mortgage, another may have the necessity of increasing his floating capital; in very few cases, however, will the real suppliers of the capital be the direct investors. We need scarcely say, that the effect of this, as in the case of "transfer of capital," is to give to the intermediate parties, or dealers, a share or profit in the ultimate object or equivalent of investment. Upon this the solid foundation of the great profits of railway capitalists rests, and it will demand, hereafter, a closer consideration.

The farmer having surplus corn or produce, does not, perhaps, bring it into the market at once, but keeps it in store; and when brought into the market, the money price realised has to go through as long a series of transmissions as the money price paid to the owner of land; perhaps, indeed, more.

The surplus savings of many parties will be, by the first holders, left for some time in the hands of the bankers, whereby they may be brought into the exchequer bill market, and thence through the consol market into the channels of investment.

In the case of the small shopkeeper and the mechanic, the surplus will probably pass through the savings' banks, and the commissioners of the national debt, before it is put in a train of adjustment.

It is evident that where any indisposition to profit by the particular channels, or any want of confidence prevails, that the operations of investment must be much impeded, and thereby all the artificial operations of "simple transfer" be paralysed, though against these latter operations no valid objection can be propounded. Whenever the mob of the high vulgar and the low are bullied and frightened into the belief that railway investment is something damnable, so often will the application of the labouring energy of the community be seriously diminished.

It will be seen that the operations of investment are so artificial and so complicated, that they present, at all times, serious difficulties in the way of their development. The natural barriers of an artificial career are of themselves sufficient checks, no less than the fact that, to enable railways to be carried out, they must present a prospect of adequate profit. In these circumstances lie our real safeguard against a plethora of railways, and the only result of the persecutory or hounding process, pursued by a portion of the press, is to interrupt the really beneficial and efficient operations of the railway system. One thing, which has had some influence upon the anti-railway press, and which affords some excuse for them, is a confusion between the process of investment in railway works, and the gambling mania in artificial scrip developed last year. The two cases have the name of railway in common, but nothing else—no more relationship than a serjeant-at-law and a serjeant of dragoons. The railway mania might be carried to any extent, like the Dutch tulip mania, as it was merely a play of artificial prices, and had little or no relation to real operations of capital, it has exploded, and, as a matter of course, left all losers and no winners,

because, when the bubbles come to be clutched, they are of air—of gossamer substance. The railway investments of the last year have produced a series of works of lasting use, the good of which will be felt for hundreds of years in the increase and economy of production. These are real and beneficial operations of capital, and positive additions to the stock and wealth of the country.

On every ground external interference with railway enterprise is to be deprecated, and particularly the interference of the legislature, because no interference, except the interference of education, can promote the welfare of this branch of industry; but every interference as interrupting the established course must be injurious. The man who perversely injures one wheel or pinion in his watch, stops the whole machine, and however delicate are the productions of mechanism, the processes of political economy are still more delicate and still more easily impeded. We may, nevertheless, apply to a watch the hand and skill of its maker, but the processes of political economy and the operations of trade are made, defined, and created by the combined influence of society, and the maker or mender cannot be personified, nor the efficient powers be delegated.

In regarding the operations of our present system, and availing ourselves of the example of other communities, we shall see that it is eminently calculated to develop and utilise the resources of the country. In all ages it has been our endeavour to cherish the industry and independence of the people, by giving them encouragement to labour; the poor-law acts of Queen Elizabeth, of Charles II., of William IV., had this intention, if they have not most efficiently carried it out.

In England it has been the endeavour, while providing subsistence for the people, to provide for them work at the same time; by a state provision for the poor, the claims on private benevolence have been relaxed, as some think most harshly, as many think most wisely. This has been defended on the ground that it promotes frugality on the part of the poor. We doubt if it does; but we consider it produces a higher influence, which has been overlooked—it produces frugality among the competent. In Ireland, and in many other countries, the charity of individuals supplies that of the state, and even the poorest labourer contributes to the support of a host of mendicants, whose labour is lost to the community, and whose bad example depraves it. The almsgiver cannot ask work; neither can he, as in this country, so apply his surplus as at once to relieve the object of compassion and increase his own permanent resources.

Even in the restricted operations of private benevolence in England, the effects may be traced out. It is no uncommon case for a farmer, shopkeeper, or mechanic to have dependent on him, in times of depression, a son, nephew, or kinsman whom he keeps, but who earns nothing, as he has no productive labour which can be offered to him. Times improve; railway works are being carried on upon a large scale and with remunerative wages, and the host naturally calls on his kinsman to profit by the opportunity, and earn an independent livelihood. A certain amount of the host's income is thus placed at his disposal, and is invested. In either case the dependant is fed; but in the former case, the resources of the host produce no profitable result, and in the latter case provide for him a permanent return. This is an ex-

planation of one class of cases, whereby the railways reap the benefit of a portion of capital already appropriated for subsistence, but not applied to productive labour.

If the host of mendicants in Ireland were taken out of private hands, there would be the same surplus for their relief; but instead of being doled out in alms, it would be invested by the holders and become the wages of productive employment. Poor as the Irish are, and pauperised as is the country, the alms of the mendicants and the labour of the idle would be sufficient to provide Ireland with an effective railway system.

Not the least beneficial result of joint stock enterprise is, that it affords the best means for applying the small surplus capital of all classes, and on that ground we have a bias in its favour. The want of intelligence on the part of the people generally is the chief obstacle to its due development; but the evident tendency of society is to improvement in this respect, and to the more efficient realisation of what Adam Smith attributes to the division of labour, but which, in reality, belongs to the effects of co-operation for the common good.

The operation of real investment in railways, or real supply of capital or subsistence for the labourers employed, necessarily involves the application of floating capital, which is regulated by the same laws as that required for the "transfer of capital." It is not that the labourer himself requires a large amount of floating capital, but the surplus for instance of the farmer in its transit operates on a considerable amount of floating capital. The navigator, miner, brickmaker, or ironworker, is by no means given to hoarding of the circulating medium, but to lavish extravagance; the navigator in particular in a summer of dissipation never has at one time two shirts, and in the winter is, as a matter of course, in the workhouse. The miner, though able in the present crisis to earn 10s. on tunnel work, is not thereby encouraged to industry or frugality, but a large portion of his time is given to prodigal luxury or amusement. A contractor going the other day to visit some works in Lancashire, witnessed the arrival of several post chaises, and inquired the reason of such an apparition. "Oh!" was the reply, "it is only the miners of No. 3 shaft come back to their work, after a jaunt to Leeds." Stories of this kind are to be heard in abundance; and the habits of our most powerful labourers are the strongest condemnation of the neglect by the state of the paramount duty of education. Industry, the only virtue they have, is not taught in the defective schools of churchmen and dissenters, where reading and writing are the substitutes for moral training, but fortunately it is taught in the cottage of every Englishman. Would to God! that sobriety and frugality were taught too, and we should not deplore the disgraceful moral condition of our picked class of workmen.

However long railway works may be continued, and however high the rate of remuneration, the first class of navigators will still live from hand to mouth, and whenever the railway works are stopped, become a useless burthen on the community. Even in the present year, there has been no husbanding of the resources of labourers, although, from the extraordinary and disgraceful idleness of the Irish in the summer, there was a want of harvestmen, and a consequent competition between the contractors and the farmers; so that the wages of the navigators rose in

some places to 7s. a day, whereas, during the great panic, no more than 2s. 6d. a day was paid for the same labour.

Unfortunately, the question of railway works is not one which so immediately affects the welfare of the labourer ; but it does that of the community at large ; and the great question after all, in all discussions on the extension or extinction of the railway system, is how we can best apply the labour of the country in promoting its permanent welfare, and increasing the resources of its population.

We have, in describing the operation of the "transfer of capital," and the "investment of capital," assumed the use of the machinery of a joint-stock company to effect the operations ; we have now to examine the schemes for raising the capital. This may be done by government, or by a joint-stock company ; by a government in the shape of taxation or loan, or both ; by a joint-stock company in the shape of shares or loan, or both.

A government may raise the requisite funds by taxation, but as such taxes can in nowise be apportioned to the means of the community, it does not admit of discussion as an eligible means.

In raising a loan, a government goes into the market as a joint-stock company does, and applies for the use of the available capital of the community. This, however, after all, involves taxation, or the possible resort to taxation, and in so far is accompanied with injustice. Before a lender can be obtained, the government must give a guarantee of interest, for the lender depends on the security of the government, and not on the profitableness or unprofitableness of the public works. The readiness with which the government will obtain the money will depend upon the credit in which it stands with the community ; the mode in which it will obtain it differs, however, from that of a joint stock company. The fractions of capital are no more invested direct in the case of a government loan than they are in the case of the shares of a joint stock company, but they have to pass through several hands. In the case of some investors, there will be a greater disposition to invest in government securities, but in the case of the majority of individuals possessing capital, who look to a large profit, there will be an indisposition to accept a small interest. We say nothing about the consequences in any country of bringing a greater quantity of government stock into the stock market.

Under a joint-stock system, the capital may be raised by shares or by loans, or by both in conjunction. In the case of loans, the joint-stock company having created a work producing an income, pledges that income as a landowner does ; but, for causes into which it is not at the present moment necessary to inquire, the market for railway bonds is restricted. The shares in joint-stock companies, supposing the works profitable, necessarily present great inducements to capitalists to invest, more than can be afforded by government or railway loans, with a restricted rate of interest. The joint-stock system stimulates enterprise, the government system slackens it. We say nothing of the relative mode of administration, because that plays only a small part in the question, which is the best system of raising the capital for railway works.

The great error, in comparing the governmental system and the joint-stock system, has been in looking to the artificial numerical results, not

to the real and effective results. The question has also been complicated by the prejudice of circumstances which do not affect it; as, for instance, the existence in a country of a public debt. The delusion of redeeming a debt by artificial processes has descended from Law to his successors, and will, like every piece of quackery, always have its professors. The distinctions between nominal price and real value, and between the several classes of capital, are extremely difficult of apprehension by the public, and much exposed to jugglery and confusion. In supplying a country with a railway system, the real object must be to increase its fixed capital, and not to pay off a public debt, for which the means of the community will be just the same. A railway system will in its development give an increase and a greater economy of resources to a community, and it must be therefore desirable to effect that object as speedily as possible. If a man has an annuity left to him under a will, he desires to enjoy that annuity as soon as he can; and he will resort to that process of law whereby the fruition can be the most rapidly obtained. This is, as Mr. Hudson has well put it, the true mode of comparing the two systems—not which is the most economical or the most expensive, but which will soonest carry out the required ends. Thus while in France the government system has executed 400 miles of railway, here joint-stock enterprise has opened 4,000 miles. To our posterity it will not be of the least moment whether a line of railway cost £5,000 per mile or £50,000 per mile; but it will matter much whether they have 5,000 miles of a railway or 50,000.

The circumstance of a country having a public debt does not affect the question of the expediency of having a railway system, nor of carrying out that system most rapidly; and the extinction of a debt can be realised just as effectually, whether a government or a joint-stock system of railway construction be adopted, because such debt is only paid, after all, by an actual system of taxation. In a country like some of the states of America, without debt, the government possession of the railway system could only exchange one system of taxation for another—a railway tax for the general taxes before prevalent, and no benefit to the community would accrue therefrom. In a country burthened with a debt, the fair way of paying it off is by such increase of taxation as will provide an adequate sinking fund; at any rate, the present generation is not to be deprived of an immediate benefit, in order that posterity, some fifty or sixty years hence, may have the prospective benefit. If it be desirable to pay off a public debt, it must surely be desirable to begin at once, and not to defer the operation for half a century to benefit those who survive at the end of the century. The delusion is the greater of the appropriation of the railway system as a sinking fund instrument, that the possible benefit can only be remote, while the immediate benefits are completely lost.

Within four years we shall possess railways having cost £200,000,000, within the same time the French will perhaps have railways to the cost of £50,000. If it be true that railways do increase the production of a country, and that they effect an economy of existing resources, we shall, from our railways derive a yearly accession to the income of the commonwealth of three times the amount of the French railways. Take this at any numerical amount we will, it will give us an amount of accumulation in the course of thirty, forty, or fifty years which will

exceed the whole amount of benefit then available to the French government and community, three and four fold. We have indeed such a start at the present moment, that it is amply sufficient to pay off the whole French national debt, before the French are in a position to make the attempt.*

We have made a start ahead, which it will take the French a great number of years to get over, and we have thereby permanently enlarged the taxable basis. If there be any real desire to pay off the national debt, it can be done much more effectually, after the results of the joint-stock railway system. If the government really choose to set aside £8,000,000 a-year, as a sinking fund, they are in a better position, by the progress of the railway system, to impose gradually the required additional taxation; and such appropriation, or a reduction of the rate of interest on consols to 2 per cent., and the establishment of 1 per cent. as a sinking fund, will, within two generations, and without burthen on the community, redeem every fraction of the £800,000,000 of the debt, before the French have got rid of theirs, which is only a quarter of the amount.

As a question of arithmetic—as a question for an actuary to settle, and that is the true way, so far as the wealth of the country is concerned, the English, or joint-stock system, is immeasurably superior to the French or government system. The Belgians, themselves, have given up the pure government system, and adopted the concessionary system of a limited grant to joint-stock companies, because they have felt that the pure government plan is inadequate to the rapid development of the required system of railway communication.

We have not entered into a separate analysis of the concessionary system, because it has the evils of a pure government system, without the benefit of a pure joint-stock system. For the fallacy of the French government possessing at the end of thirty, forty, or fifty years the railways constructed, a limitation on enterprise is imposed, which has forcibly restricted railway progress, and produced the lamentable comparison which we have cited of the results of railway extension in France and England.

If a comparison of the two great systems of raising the capital, and of railway administration were examined on political grounds, the objections to the government system derived from experience, would be still more discouraging to its general adoption. Governments never conduct any branch of industry so well as private enterprise does, while as a financial body it is extremely unsafe to entrust them with funds, which are appropriated to specific trusts. To say nothing about the manner in which the American state governments have administered their public works and public debts, or the English government misappropriated the income tax, and mal-administered the national debt, the French government has long since embezzled the funds appropriated to the repair of the common roads, and has not yet reinstated them. The necessities of a government, and the unstable mind of taxable bodies, always leads in times of emergency, or supposed emergency, to the mal-appropriation of the special funds; and for one act of virtue, like the Netherlanders imposing on themselves a special tax to save their credit, we have too many

* We need scarcely remark that 1 per cent. per annum would produce £100 in forty-seven years, at 3 per cent.; in forty-two years, at 4 per cent.; and in thirty-seven years, at 5 per cent.

recent examples to the contrary. Have not the Pennsylvanians and other Americans refused to levy the taxes to which they are pledged, while within a month the Portuguese government have defrauded the fundholder, because they are too idle to enforce an adequate system of taxation? The Mexicans have embezzled our portion of the custom dues, and repudiated their engagements as to the payment of their debts; the Spaniards disgrace their national credit, because they will not modify their tariff. The English government is not so immaculate that we should repose in it a dangerous trust.

We now come to a portion of the subject, which has been treated with no less virulence of partisanship, the facts not less misrepresented, nor the facts less perverted. This relates to the profits and dividends of the railway capitalist. We distinguish the two, the one to denote the profits on the capital, and the other the profits on the income, for railway capitalists have not only increased their incomes largely, but, as is matter of vulgar wonder, have also increased their capital.

If, in the operations of the transfer of capital, the landowner, for instance, were to make a direct transfer, and accept shares for land, the capitalist would not be called upon to intervene, and could derive no profit. The landowner does not, however, choose to make a direct transfer, but selects some other class of investment, which the more remote it is, the more trouble it imposes in the operation, and the higher must the service be paid. This payment is in fact made out of the railway shares, and the landowner pays the price of his ignorance, as the railway capitalist reaps the price of his intelligence. If a man has not intelligence enough to see the prospective value of a London and Birmingham share, he cannot complain, if the individual, who has that intelligence, makes a profit on the operation. He who takes the risk ought to take the profit; and it so happens from the gross ignorance and prejudice of a large part of the community, that they leave a large margin for the profit of the capitalist.

The capitalist who took London and Birmingham shares, was, on the opening of the line, enabled to sell them at a profit to parties who were willing to pay a price for the certainty of some remuneration, though they were disposed to run the hazard of the future increase of income. As that income increased, and as its stability was confirmed by time, the stock acquired a value in the eyes of those still more cautious, and still less adventurous. These profits of the capitalist have been large, and they have been the more rapid as the number of individuals possessing the requisite capital and intelligence has been small. When we consider that within a few years London and Birmingham, Grand Junction, York and North Midland, and Great North of England shares, have, among others, advanced to a price of 240 per cent., we cannot be surprised if the property of many individuals invested in those shares has largely increased. There is no magic in this, there is no luck, the field was open to every one, and if parties have not availed themselves of it, it is not necessary for them to envy and belie those who have. The profits, however, have not been confined to the original stock, because it has in many cases happened that as much has been made by the additional shares for the new lines, or "calves" as they are called. Thus, without further exertion, without the supposed risk, or gambling, the capital of individuals has, within ten years, advanced five

fold, £5,000, has become £25,000, £20,000 has become £100,000, £100,000 has become £500,000. Where the capitalist has used more intelligence and not bought in at the original price, but bought in at a discount, the accumulation has been still greater and more rapid.

Dividend is entirely distinct from profit ; profit would be obtained by the intelligence of the capitalist, and the demand for floating capital, whether the capital for railways were raised by a government or by a joint-stock company. Dividend, or the participation in the income, is peculiar to joint-stock companies. It is what Adam Smith calls the profit on stock, and is derived from the same principles as other profits on stock, and governed by the same laws. The popular ignorance and prejudice has, however, of late, been excited, or attempted to be excited, in reference to railway dividends, as, in all such cases, the morale is entirely left out of consideration. The public are perfectly willing to consume the increase of meat, fish, and corn, and coals, which have been given to them by the railway system ; but they are unwilling to allow the participation of the creators in this newly-created produce. If a private individual walked into the midland districts, and offered the inhabitants to give them, without any additional expense, one-tenth more meat, fish, corn, and coals, it would not be denied that he ought to be allowed to participate in this result of his ingenuity. Such, however, is the greediness of individuals, that although his claim might be admitted, the temptation would be equally great of defrauding him as of defrauding a company, and on this feeling rests the opposition to dividends. When Watt introduced his improved steam engine into Cornwall, all he asked for his payment was one-third of the fuel he saved. This was cheerfully granted ; but though the miners gained the two-thirds, which they would never have had except for him, they soon yearned for his third, and formed a common purse to invalidate his patent, and to supersede it by an invention of Hornblower's. When Neilson introduced the hot-blast into Scotland and Wales, he contented himself with a small participation in the saving. The produce was enormously increased, but the ironmasters combined, and it was only by protracted and expensive litigation that he secured his reward. People may be ashamed of these things, but they are not ashamed of reaping the benefits of the railway system, and then, under the plea of monopoly, attempting to defraud the investors of their share in the increase of the national wealth. By the joint-stock system a stimulus has been given to railway enterprise ; by that system alone can railway enterprise be efficiently conducted ; but if that stimulus, which is its distinguishing feature, be withdrawn, the whole system must drop, and we must sink to the level of the continent.

HIGHTON'S ELECTRIC TELEGRAPH.

An improvement in electric telegraphs has lately been patented by Mr. Highton, of Rugby, and purchased by the Electric Telegraph Company (the present proprietors of Cooke and Wheatstone's patents), which is likely to prove of considerable importance in telegraphic communication.

The improvement consists mainly in the substitution of a slip of metallic leaf, with a magnet placed near it, for the old coil of wire and magnetic needles. The advantages gained by this change are many and great :

First, in cheapness. A couple of coils and needles, such as are at present used, cost £20 ; whereas the corresponding apparatus on the new plan does not cost more than 20s., a difference of 1,900 per cent.

Secondly, in delicacy. With the new apparatus, a battery of a single cell will work through 100 miles of wire. This gives it many collateral advantages. For instance, it may be employed with great advantage in derived circuits. Thus dividing the current into two or more parts, the same news may be transmitted direct from Liverpool to London, while, at the very same time, the same fluid is travelling through two derived circuits, and conveying the same information through Bristol on the one side, and Cambridge and York on the other.

Thirdly—The greater rapidity of motion. Gold leaf being almost without weight, and consequently without momentum, immediately after the signal is made, the leaf drops dead down without any oscillation or swinging, which always takes place, more or less, in the needles.

Fourthly—By a slight change in the construction of the keys or handles which serve as commutators, double, or even treble the number of signals may be made with each slip of gold leaf, to what can be made with the needles. With a needle, in consequence of its oscillation, only one power of electricity can be employed ; whereas, with the gold leaf, two or three different powers may be employed, deflecting the gold leaf to a less or greater extent, and consequently multiplying, in a corresponding ratio, the number of signals given.

Fifthly—The portability. One of the gold leaf apparatuses may be carried about in the pocket, and be applied to use for any temporary purpose, at any point of the country, in the course of a minute or two.

Sixthly—In consequence of the cheap and simple nature of the apparatus, a large reserve may be always kept ready for use at each station, so that if one apparatus be damaged by lightning, or other cause, another may be substituted for it in a few seconds.

Seventhly—The slightness of the resistance offered to the electric current. The resistance of each of the coils at present used is equivalent to about six miles of wire, whereas that of a slip of gold leaf is not equal to more than a few hundred yards. This will enable the same battery at each station to communicate with many more stations at the same time, than can be possibly done at present.

Having these advantages, it must soon entirely supersede the old needle telegraph, and will probably be, for the present, the form of telegraph used throughout the world, till it, in its turn, is superseded by some new invention. Now that the form of telegraph is reduced to such simplicity, it will probably be used for communication, not only to

great distances, but between the different parts of the same public buildings, &c. We consider it as a very important step in the history of telegraphic communication. We hear that the same gentleman is employed in making further experiments, which we hope will be attended with as valuable results.

EXCHANGE COMPANIES.

In the present state of the railway money market, every operation excites interest, and requires the attention of the publicist. The principles and proceedings of exchange companies are little known; but they have reached such a stage of advancement, that they demand inquiry.

The exchange companies are establishments formed for the purpose of making advances on stocks and shares. They originated in Scotland, and are established there exclusively—a circumstance which admits of very ready explanation, but it is evident that they will be, in a short time, rapidly extended here. It is on this account that we propose to give a short description of them in the present number; and at an early period, when we have received further information, which is promised to us, we shall resume the subject.

Advances on shares cannot be legitimately made by bankers—not because the operation in itself is a bad one or unsafe—but because it is inconsistent with the general tenor of banking business. A banker holds in his hands an aggregate of sums liable to be withdrawn on demand; and, although he has an average balance always remaining in his hands, yet if he is to make use of the money in his till, it must be in advances for short and definite periods, and on securities negotiable in the banking market. Advances on shares, on houses, and on mortgage, are inconsistent with these premises, and the banker is confined to the less lucrative business of discounting bills of exchange, and buying exchequer bills. It is the business of the banker to deal in floating capital only, and not in fixed capital; and he would be bound to reject the security even of London and North-Western stock, which is better than that of the government.

Advances on shares, moreover, constitute a business of themselves distinct from bill-broking or banking, and that business in London is carried on by members of the Stock Exchange, being one of their regular and established pursuits, with which the banker has no more to do than he has with making a coat. The system of the Stock Exchange is so well developed that advances can be obtained on any class of security, and on the most moderate terms consistent with the transaction. The provincial markets are also in the habit of sending to London for accommodation; hence the banker, if applied to, would naturally refer the applicant for an advance on shares to the broker. The Stock Exchange is also well supplied by large capitalists, who understand the nature of the transactions, and can afford all legitimate accommodation.

In Scotland, the shareholder, shut off from the aid of the banks, with

only a limited share exchange, and at a considerable distance from London, has not the necessary facilities for obtaining advances, and an opening has been afforded for the establishment of exchange companies.

The business of making advances in shares is much safer than banking, and much more lucrative; but it has not the advantage of admitting so readily the application of the scattered fragments of capital, which give the banker a greater aggregate command of means.

At the present moment, we shall not discuss the question how far advances in the share market are calculated to abstract money from the discount market; at the proper time we are prepared to do so; but at present we may observe, that there are natural limits, which effectually define the extent of the share market.

The exchange companies have now been in operation for about a year and a half; their stock stands high in the market, and those of them which have had the time to give a report to their shareholders, have declared a large profit.

That the system will be introduced here we have no question, for joint-stock operation in money matters always comes in conflict with private enterprise; but there is not the same field here as in Scotland.

The prospectus of the British Exchange Company, which will be found in another part of this work, gives some further information as to the mode of management; and, with this reference, we must leave the subject at present for the reason we have already mentioned.

RAILWAYS IN INDIA.

INDIAN RAILWAYS.—*By An Old Indian Postmaster.*
LONDON: NEWBY, 1846.

AT the present moment railways in India excite a great deal of attention, and justly so, because India is now most closely connected with us; and no question of general policy or finance, as applicable to England, can be safely considered without a reference to its Indian relations. The railway movement in India has caused many writers to come before the public, because railways in that part of our empire are looked to not more as a commercial undertaking than a social benefit. Many classes of the English population in India are exposed to frequent migrations, the source of heavy expense, and great inconvenience. The governor or the judge has to inspect his district, the diplomatist to visit a distant court, the soldier to change his quarters in time of peace, and to make long excursions in the period of warfare. Distances in India are like what they are in the United States, reckoned by hundreds of miles, instead of by scores, as with us, and journeys can only be made at a slow rate and with painful labour in a climate where passive endurance is a sufficient evil to a European constitution without the exposure to active misery.

An officer may as soon reach London from Calcutta, as his station in the up country of India; and a journey of a thousand miles becomes an expedition, which takes as many weeks as here it would days. Every individual there is willing to invest his funds in the promotion of an

improvement, which bring him more than money, namely, comfort, health, and pleasure, which will lengthen life and promote enjoyment. In a country where the means of transit are at their lowest, the government sees the benefit of a system, which, whatever else it will do, will certainly, by saving the time consumed in travelling, give them an additional effective military force of at least twenty thousand men, now uselessly employed on the roads, changing stations, which will also add to the effective force, by diminishing the sick in hospital, and which will render the army more powerful in its operations, by facilitating its operations on any required point. The railway system is a different thing with us; it is the difference between seven or ten miles an hour or twenty and thirty in India; it is the difference between the slowest possible rate of travelling or crawling, and the highest rate of flying.

The Indo-English community are vitally interested, and this gives a colouring to the statements and writings on the subject, which has often deterred the capitalist rather than attracted him. The length to which our eastern friends have dwelt on the good which is to come to themselves, and their government, has not so powerfully prepossessed the capitalist here, who is not used to rely on government operations or private luxury for his estimate of railway income. In fact, the calculations of general passenger traffic and extensive goods traffic, have been rather lost sight of in the contemplations of results, which promise the individual an agreeable relief, and the government a political engine. The truth is, that in addition to the usual sources of traffic here, railway enterprise in India has the advantage of the ready co-operation of the government and the great body of the wealthy population, who are ready to contribute—the former a guarantee, and the latter, a large investment of capital.

A work, now before us, is styled "Indian Railways as Connected with the Power and Stability of the English Empire in the East, the Development of its Resources, and the Civilisation of its People, with an Analysis of the Projects now Claiming Public Confidence." This, under the title of an Old Indian Postmaster, is the production of an experienced Indian officer, and forms a complete compilation of all that has been written on the subject, digested under various heads, and strengthened by many original arguments and valuable statistical documents, so as to form a comprehensive whole.

The remarks of the writer on "The Political and Military Importance of Railways in English India," do not require much comment from us; those advantages must be obvious to every reflecting man, though the numerical extent may not be so well known. The state of affairs under the present system is so bad, that when, during the last war, one hundred officers were required to join the army, and were sent at the public expense, the postmaster general was only able to send three a day; and, as the journey took sixteen days travelling, day and night, few arrived before the war was over, and even this great feat could not have been accomplished at any other season of the year.

In the annual relief, the *Calcutta Review* for March states, that infantry regiments are often moved from one end of India to the other, at an average of $10\frac{1}{2}$ miles per day, halting six days in the month; so that it takes about six weeks to move from Calcutta to Benares. This distance would be done by railway within a week, without fatigue

to the men or their exposure to the climate. As the postmaster says, by railway the same train that would convey the soldier would also convey his arms, his tent, and refreshments; so that an encampment of well supplied and efficient troops might be formed within a very short time at any required point. In the late Polish insurrection, an Austrian corps of 921 men was transported by railway from Prague to Olmutz, 160 miles, in fourteen hours and a half; and a body of cavalry of 1,500, with horses and baggage, did the same distance by railway in twelve hours.

The saving of human life, with regard to European troops alone travelling by railway, would be important. Every recruit landed in India costs the Company £110 at the least. In consequence of the present ineffective means of communication, the lives of the soldiers are frequently sacrificed on march and on the Ganges. About three years ago, 100 Europeans were lost on that river, entailing on the government a sacrifice of £10,000, besides the injury to human life.

The social and commercial advantages of railways in English India are next treated on by the Indian postmaster, and he gives a good deal of evidence on the subject. We are sorry, however, to see that his authorities, instead of being derived from original and practical sources, are no better than Mr. G. R. Porter, M. Desart, and Mr. Butler Williams. Thus he does the latter gentleman the injustice of claiming for him the discovery of the principle of low fares (p. 136).

M. Desart has led the postmaster into a serious error, for the latter speaks of "the exploded theory of through traffic being the chief support of a railway." He then goes on to give an enunciation of M. Desart's supposed discovery about local traffic and short traffic. If the idea were ever entertained that through traffic was the chief support of railways generally, which any old coachman would have controverted, it was exploded ten years ago, by the investigations of Mr. Herapath and Mr. Hyde Clarke. The general law of the proportion of traffic was discovered by Mr. Herapath, and was one of the first practical points determined in railway statistics, and is made use of to this day by every railway chairman and manager. The question of through and short traffic was investigated long ago, as far as it was practicable to go, but the limits of application are very narrow, as any one would discover who would take the trouble to go into the matter properly. M. Desart's system and law is a specimen of self-delusion, arising from over-statitising. The only true part of it is Mr. Hudson's favourite maxim, that a good agricultural traffic is the best. There are two ways of trying M. Desart's law, and which will show that it is not of the least practical utility. One is to look at his own tables and observe, not the average errors, but the actual errors extending to 50 per cent.—an error which would be fatal in laying out a station, while the law is useless, because the station traffic is generally known from the previous traffic. Another way is to try it on the station returns of English lines in different parts of the country, which shows that it is a complete failure.

The postmaster can hardly be held responsible for adhering to M. Desart, because he has received the acquiescence of the Morrisionian school.

As to the field for traffic in India, without quoting the statistics of

the postmaster as to its extent, we may observe, that the present rates for goods are 2d. per ton per mile, by the river, and 4d. per ton per mile, by land, about double the railway charges. If, therefore, a ton of cotton, sugar, or rice, can bear heavy charges, it can bear light ones. The general trade of the Ganges is estimated at 1,000,000 of tons a-year by some, and 1,250,000 by others.

We now come to a portion of the postmaster's work which is likely to create more controversy. He is a decided advocate for the Great Western Railway of Bengal, and as such, to some extent, an opponent of the Burdwan line, of Mr. Macdonald Stephenson's East India Railway Company. We are pleased to see that he does justice to Mr. Stephenson's exertions. He says—"It was far from our wish, when discussing the merits of the East India Railway, to detract an iota from those of its projector, Mr. R. Macdonald Stephenson, whose exertions in connection with the introduction of railways in India we duly appreciate." Certainly no man has done more for railways in India than Mr. Stephenson; but we ourselves differ from him on the question of government interference in railway management. We want the full and free operation of private enterprise.

The postmaster demands the line near Burdwan to Rajmahal for the Great Western Railway of Bengal, leaving the East India Railway Company to prosecute the line from Allahabad to Delhi.

"The grand object, both for the government and the merchant to attain is, to connect Calcutta with the north-western frontier, and there can be no great difference of opinion as to the direction of the line from Mirzapore through the Doab to the banks of the Sutlej; this at once disposes of nearly two-thirds of the entire length of the grand trunk line; but as to the best mode of connecting Calcutta with Mirzapore, there are two, if not three, opinions enunciated, and it is to be borne in mind that this portion of the line, besides commencing at the metropolis of British India, traverses the provinces of Bengal and Behar, the revenues of which we have already shown equals those of the whole of the remaining British territories in India, yielding a surplus of £4,000,000 annually, a portion of which flows from India to our shores, and the rest enable us to improve, consolidate, and defend other and more remote regions in the east, naturally less productive. It also ought to be borne in mind, with regard to the vast descending trade of the Ganges, that but a small proportion of the produce brought from the interior of the country comes from above Mirzapore. Notwithstanding these facts, the railway commission recommend a direct line. They state that the summit level of the country gives a rise of 800 feet, and that assistant power will be requisite to work the trains; the Soane river will have to be crossed by a bridge, the foundation to be sought for below 'an unknown depth of sand.' This bridge, or viaduct, would equal in all its dimensions those of the Greenwich Railway. The natural barriers to be surmounted are composed of primitive, transition, and secondary rocks, generally of the most obdurate and impenetrable class—such as granite, greenstone, and basalt.

"But even if the direct line was not beset with almost every variety of physical obstacle, it would be inexpedient from the poverty of the

country, diversified at long intervals by a little cultivation, and scarcely animated by human beings.

“ The report in para. 43, states that a great part of the country in its route—till very lately—‘ was abandoned to the beasts of the forest.’

“ The branches of such a direct line would be crushed and paralysed in a vain rivalry with the steamers and river craft in their efforts to divert to a new, and to nearly all the important seats of commerce, circuitous route the great descending trade of the Ganges, and as the chief portion of this trade proceeds from points below Mirzapore, it would certainly not ascend the stream to arrive at that terminus; so that the trunk line would remain for many years unproductive to the shareholders, and useless to the state, with occasional exceptions, for nearly all the emergent movements of troops and stores take place in the upper provinces.

“ The second mode of commencing the railroad system in India, indicated to us, is from some point on the west bank of the Hooghly to Monghyr on the Ganges. This line is declared by competent authority to be perfectly practicable, and as it would leave behind it a much smaller portion of the valley of the Ganges, and therefore take up much more of the trade brought down to the Ganges by the great rivers flowing from the lower ranges of the Himalayahs, it would from this cause and the comparative cheapness of its construction be much more likely to be commercially remunerative; but this line, although superior to the former in cheapness of construction, in shortness, in traffic, it would still be an expensive line, the summit level not being less than 800 or 900 feet, having to avoid in its route hills higher than any of those in England or Wales, and to bridge from thirty to forty streams of various dimensions. This line is not calculated to be an integral portion of a great and harmonious system; as a trunk line it is neither the most direct nor the easiest route to the north-western frontier, nor that possessing the greatest through traffic; and taken *per se*, it gives nearly 300 miles of railroad, without supplying a single town or station of the least magnitude, if we except Burdwan, between its termini, and for many miles having to encounter the difficult, pestilential, jungle-covered hills of Rajmahl and Bhangulpore; so that the Monghyr line is at once deficient in all the requirements of an experimental line, either for introducing internal communication on an extended scale, or meeting the wants of a particular district. Like the Mirzapore direct line, it shuns the city and withdraws from the rich and populous plain, to cultivate the wilderness, and stimulate its scattered, squalid, and poverty-stricken inhabitants to agricultural, commercial and locomotive activity. The line from Calcutta on the Hooghly to Rajmahl on the Ganges appears to possess every requisite claim to immediate selection by government—the ground has been surveyed with great minuteness by their own officers, it follows the old and beaten track of commerce, through a rich and densely-peopled country, and completely outflanks the Rajmahl and Bhangulpore hills, its upper terminus at the lowest practicable point, on the river and close to where the navigation is at all seasons either difficult on dangerous, and for nine months in the year most vexatiously circuitous, the advantages of this line are fully admitted in the report, and were

minutely detailed on a former occasion. But in treating the subject generally as in this section, it is important to recollect that when comparing the merits of different projects, that a railroad having Calcutta for one terminus and some point on the Ganges for the other, the traffic will be in an inverse ratio to the length of the line; that is, the further a line is carried up, before it debouches upon the great commercial artery, the less would be the traffic.

“The line from Calcutta to Rajmahl, besides being unexceptionable, *per se*, is a line that must be made, if railroads are to be made in India, either as the principal trunk, or as the most important branch that any trunk can possess; its merits in the latter and subordinate capacity are, as just stated, fully admitted in the report of the railway commissioners. But the published report of one of those commissioners in 1843 is decidedly in favour of a trunk line to Mirzapore, by Rajmahl and the Gangetic valley, and the opinions of the eminent mercantile and scientific men transmitted from India by the very last mails, are in favour of the Rajmahl line, being gradually extended up this great, fertile, and populous valley.

“We have already stated our decided preference for that plan of commencing improved transit, which would only supersede the river navigation where it was most defective, and co-operate with it where it was always available, *i.e.* a railroad from Calcutta to deep water in the Ganges at Rajmahl—from this point, river steamers to Allahabad, at the confluence of the Jumna and Ganges, where deep water ceases—and a railroad from Allahabad to Delhi and the Sutlej. This would itself be nearly 1,000 miles of railroad, exclusive of branches, traversing the easiest, the richest, and most densely-peopled portions of our dominions where the river transit is either dangerous or tedious, as by Nuddeah rivers and Sunderbundes, or only applicable to the smaller country craft, and closed entirely to steamers, as the great rivers are beyond Allahabad. Above this point it is impossible, by land or by water, to move military stores or merchandise, in any quantity, beyond the average rate of twelve miles per diem. No Eutopian idea of a railroad system starting at once into a complete perfectibility, should divert enterprise and capital from so fair and inviting a field, with such feeble rivals, to compete with the river steamers accomplishing fifty miles per diem, and they will soon nearly double that rate, when a railroad relieves them from the Nuddeah rivers and Sunderbundes. If such a rail be established, the steamers, instead of starting from Calcutta, will start from its northern terminus, which will thus become in fact the steam port of Calcutta. The narrow and often angular streams in the Sunderbundes, and lower Bengal will thus be avoided, the necessity of a double vessel will cease, single vessels of larger dimensions and engines of greater power may then be employed, by which a large saving of time and money will be effected.

“The advantages of such a line in every point of view are sufficient to recommend it to public favor.”

“After having supplied the regions indicated, the two lines might gradually approach each other as circumstances rendered it desirable or necessary. It now remains to state the comparative merits of the two modes of completing the trunk line by filling up the interval. The more direct from Burdwan to Mirzapore has been already described and

objected to, the other from Rajmahl by all the various populous cities in the fertile valley of the Ganges, we describe in the words of the railway commissioner, Captain Western, 'from Rajmahl along the banks of the Ganges, with the exception of one point, where a shoot from the Rajmahl hills extends into the Ganges at Siclygully, no difficulty occurs; indeed the only engineering difficulties at all would be the passage of the rivers, and these I trust would soon be shown not to be insurmountable, for it has already been proposed to build bridges over the rivers Jumna and Ganges at Delhi, Agra, Allahabad and Benares; and plans and estimates for a masonry bridge across the Jumna at Delhi were in preparation when I was at that station; besides, the bridges could be built of sufficient width to allow of the construction of another road alongside the portion marked off for the rails, for the passage of the ordinary traffic of the country.'

"The table at the foot of the page* carefully prepared from the Dâk (post) routes, shows the relative distances by the two lines. The actual length of the line to Mirzapore by the valley of the Ganges would be about 100 miles more than by the direct route, but to make the latter of any commercial utility it would require several branches of great length, which would act as feeders to the trunk line, but fail to accommodate the great intermediate traffic, and it will be seen that going to any intermediate point, Patna, for instance, the difference is very trifling, while the facilities for constructing the line by the valley would be great, as it could be commenced at all the stations simultaneously, the river being available for carrying the material of the road to so many points; the internal traffic also between the various towns on the route would form no immaterial portion of the receipts of this line.

"Another very material point would be the difference in expense of the two lines. On the direct line we are assured the summit level gives a rise of eight hundred feet at several points, while the other, for all engineering purposes, is a level almost throughout. Those well entitled to give an opinion state, that the cost of the one would be, per mile, twice as much as that of the other.

"The railway commissioners have reported in favour of the direct Mirzapore line, the principal commissioner not having seen, or at all events not having surveyed any other, but it would be much to be lamented, were there to be a postponement of the court's decision till there was a fresh survey, as there can be but one opinion regarding

* Direct line to Mirzapore.		Gangetic Valley line.	
Calcutta to Burdwan	- 75 miles	Calcutta to Rajmahl	- 178 miles.
Burdwan to Shirgotty	- 216 "	Rajmahl to Monghyr	- 105 "
Shirgotty to Chunar	- 137 "	Monghyr to Patna	- 102 "
Chunar to Mirzapore	- 22 "	Patna to Benares	- 138 "
	<hr/>	Benares to Mirzapore	- 26 "
	450		
Add for branches			
Burdwan to Rajmahl	120		
Shergotty to Patna	80		
" to Raj. Ghat.			
(on the Ganges opposite			
to Benares	17		
	<hr/>		
	217 "		
	667 "		
Calcutta to Patna	370 "	Calcutta to Patna	549 "
			<hr/>
			385 "

the Rajmahl line, and the one from Allahabad to Delhi, and the comparative merits of the two routes to Mirzapore can be tested while those are in progress of construction.

“Although the direct Calcutta and Mirzapore line shows a gain of about 100 miles in its lineal distance over that of the Rajmahl and Gangetic valley, considering the relative distance in a mechanical point of view, we shall find that but a very slight difference really exists.

“We are informed by the commissioners in the 27th section of their report that the gradients on the former line will be so steep as to require assistant power to work the trains, and we know from the undulatory nature of the country between Burdwan and Mirzapore that a heavy working line will necessarily occur, requiring a considerable expenditure of power to maintain a given velocity. Whereas the line by the valley of the Ganges, outflanking the hills, will have no difficulties to encounter, if we except a portion of the route between Rajmahl and Bhangulpore—the inclination of the country being about twelve inches per mile; of necessity, therefore, the line will approach nearly to a level. If we suppose the gross weight of load propelled on both lines to be the same, and we take the amount of power expended in travelling over both lines to maintain a given velocity—if then the relative amounts be spread over a level plain in both instances, we shall find that the increased expenditure due to the more steep and undulatory line from Calcutta to Mirzapore would produce an equivalent line of level nearly equal to that of the more level line by the Gangetic valley, hence the mechanical distance and the comparative time occupied in making the journey on either line will be nearly complete.

“The gain in time by the shorter line, if any, would be too inconsiderable to be taken into account in a country, where time occupied in travelling is estimated by months instead of hours, or to be a just compensation for so great an amount of expenditure.

“Before concluding this important section, we return for a few moments to the projects intended to carry out the grand desideratum of connecting Calcutta with the N. W. frontier, when it will be seen which are the best adapted to achieve this object with the smallest expenditure of time and money.

“The East Indian (from Calcutta to Mirzapore) declining all co-operation with the river, would do this in a slow and most expensive manner,* if allowed to carry its plans into effect, and be entirely dependant on through traffic between the termini.

“The Great Western (from Calcutta to Rajmahl) and the line from Allahabad to Delhi passing many towns and villages, and taking advantage of the river navigation where it is available (instead of superseding, would stimulate corresponding improvements in the river) they would, at half the cost, and in one quarter of the time, supply this now indispensable desideratum.

“By adopting the river from Rajmahl to Allahabad the average cost of construction would be reduced one half, as that portion between Burdwan and Allahabad, which comprises all the difficulties, would not be included in the general estimate for a complete communication.

* “The lower half, from Calcutta to Mirzapore, costing considerably above that average, and the other half, from Mirzapore to Delhi, as much below it.” *Report of Railway Commission, para. 64.*

between Calcutta and the Sutlej, and the outlay would be saved for making four hundred miles of railway, through a barren, desolate, and difficult country.

“On the whole, then, it is our conviction that the Great Western of Bengal (from Calcutta to Rajmahl) and the line from Allahabad to Delhi, co-operating with fleets of river steamers, from Rajmahl to Allahabad, would at once be not only the most judicious, the easiest, the least costly, the soonest constructed, and in every other point of view the most advantageous mode of introducing the railway system into India—but most probably the only practicable mode that is at present before government.

“The subjoined extract from a letter of General Macleod, late chief engineer, Bengal, published in the *Friend of India* of March 19th, 1846, stamps our views with real and solid value.

“I think the line proposed from Calcutta to Rajmahl a vast improvement and a very rational scheme. The soil is excellent the whole way, and the surveys of that part of the country already so minutely taken, as regards levels, and everything else required, that they may commence making their plans at once.

“I should certainly take a great interest in the line, as I do think it the most eligible that could be thought of, and one that would form a most important benefit to the country. The next best line in my opinion will be that from Allahabad to Delhi.

“I do not know that I can afford the directors any great extent of information, but I shall be glad to give them all I possess.’

“It has been already stated that this eminent and experienced engineer officer, is now chairman of the Great Western Bengal Railway Company, whose project is to connect Calcutta with Rajmahl.

Having given so extensively the writer’s views on the comparative merits of the two great lines, we shall give his reasons for his support of the Great Western of Bengal:—

“The next design* which merits attentive consideration at our hands, from the immediate facilities which it would give to government and commerce, is the line from Calcutta to Rajmahl. This railway claims priority of registration, although from untoward circumstances, connected with its birth, it was only second in the field. It was ushered into life under the auspices of a company denominated the Great Western Railway of Bengal, and from the capitalists and merchants of Calcutta extending to it their patronage and support, it is known in India as the ‘commercial line’ in contradistinction to the East Indian, or the ‘political line.’ The Great Western Railway of Bengal for the present confines its attention to connecting Calcutta with the Ganges, viâ Burdwan, Berhampore, Moorshedabad, at Rajmahl, where it would receive the concentrated commerce of India, traversing the most fertile

* Length of line, 180 miles.

Capital—£4,000,000.

The amount of capital appears disproportionately large to the length of the line, but it is the intention of the Company to extend the main line, eventually, to the N.W. provinces, by the Gangetic valley, as far as Allahabad.

NOTE.—This line was supported by the late distinguished and lamented Dwarkanauth Tagore. He was sole trustee to the Company for the above project from the time it was constituted.

and densely-peopled portion of our dominions, it will form the only link wanting in the chain of communication between the two great channels of commerce, the main Ganges, and Hooghly. It is already ascertained to be of easy construction, having been carefully surveyed, by the orders of the local government, for the purpose of making a canal, to unite the two rivers already mentioned, and is agreeable to the recommendation of the authorities in Leadenhall Street, with reference to the introduction of railways in India.

“ We shall now quote from the Indian periodical formerly alluded to, which appears, notwithstanding a disavowal of such intention, anxious to make out a case against the Rajmahl line. The writer in so respectable a journal cannot be a Marhratta ditcher (a Calcutta cockney), unacquainted with what takes place in the interior of the country which he inhabits! He certainly does imply that the Rajmahl line would pursue the old and beaten track of commerce, but avoids mentioning the possibility of its co-operating with the river steamers on the main Ganges; indeed, while discussing the merits of this project, he shuns allusion to such vessels being in existence, insists that the railroad would be opposed to the river traffic, and yet the steamers belong to the same parties with whom this line, by his own showing, is so popular, viz., the Calcutta merchants and capitalists—but to the extracts:—

“ In justice to this Company, it must be admitted, that it would accomplish all the objects of the canal. On the eastern side of the Ganges from Patna downwards and along the Bhagerathi, the country is a rich alluvial soil, the proprietors of which carry on the cultivation of indigo and sugar, chiefly with capital advanced by the banks, merchants, and agents of Calcutta. The produce is abundant, and of great value, and much, or most of it, is brought down by native craft on the Ganges, Jellinghi, and Bhagerathi, the navigation of which rivers is at all times, from causes varying with the seasons, tedious and difficult, and often dangerous. The passage of cargo boats takes between twenty and thirty days from Rajmahl to Calcutta. The losses are great, and the insurance as high as from England. To supersede the river navigation, or take its place, is the object of the Great Western Railway—and as it would be eminently useful to the capitalists of Calcutta, it is popular with them. This point of view, however, is not a comprehensive one. It includes the consideration of commercial traffic alone, and has no reference to the wants of government, nor to the principles on which grand trunk lines are now constructed in England. The road would have the river parallel with part of its course, and in direct competition with it.’

“ And yet the navigation ‘is at times, from causes varying with the seasons, tedious and difficult, and often dangerous—the passage of large boats takes between twenty and thirty days from Rajmahl to Calcutta. The losses are great, and the insurance as high as from England!’ This needs no comment. ‘To supersede the river navigation, or take its place is the object of the Great Western.’ Quite the reverse—it is to facilitate it, by co-operating with the river steamers on the main Ganges, and saving them the expense, delay, and danger of the Nuddea rivers and the Sunderbundes. ‘As it would be eminently useful to the capitalists of Calcutta, it is popular with them.’ Yet these gentlemen are the proprietors of the several fleets of river steamers, to which river the railway is to be opposed. ‘This point of view, however, is not a

comprehensive one.' If you turn the small end of a telescope towards the dome of St. Paul's, instead of a great and majestic structure, you would see a thing like a tea-cup turned topsy-turvy, or the top of a muffineer (pepperpot) presented to you, and you might well exclaim, 'This point of view, however, is not a comprehensive one!' 'It includes the consideration of commercial traffic alone, and has no reference to the wants of government.' In connection with the steamers on the main Ganges, it would establish a safe, rapid, and certain communication between Calcutta, Allahabad, and the upper provinces. That a communication between Calcutta and Rajmahl was in accordance with the wishes of government, we prove from the statement in the preceding page of this writer. 'Many years ago, a canal from Rajmahl to Calcutta was proposed by Colonel Forbes, an eminent engineer officer, who ascertained the levels and projected the details. The construction of it was authorised by the court of directors, and prevented by the Afghan war, which exclusively occupied the attention of government, and exhausted the funds set apart for the purpose.' (This, we are assured, is not the case—the amount still being on the books of the Calcutta treasury). 'On the restoration, however, of peace, after the Gwalior campaign, Lord Ellenborough, as he himself declared, sent to the Board of Control a strong recommendation of the canal, and probably it would have been commenced, but the plan of the East Indian Railway Company appeared at this period. The idea of a railway to Rajmahl was merely an accidental transition from the previous design of a canal, and led to the formation of the Great Western Railway Company. In justice to this Company, it must be admitted, that it will accomplish all the objects of the canal!' and yet we are told, 'that it has no reference to the wants of the government,' although one of their own eminent engineer officers ascertained the levels and projected the details of a canal which led to the formation of the Great Western Railway Company. In justice to this Company, it must be admitted that it will accomplish all the objects of the canal,' the construction of which was authorised by the court of directors, funds were set apart by the local government for the work, and the governor-general sent home a strong recommendation on the subject to the Board of Control! and yet we are told 'that it has no reference to the wants of the government!'

"Is this a fair and manly mode of treating a subject in which not individuals or companies, but nations, are interested, in which the onward progress of the natives of the soil, in all that humanizes or elevates man above his fellows is so deeply involved? is it worthy of a philanthropist and patriot to come to the discussion of a subject which takes within its scope the performance of sacred duties to those subjected to our rule, and the defence and consolidation of the greatest empire ever established in India, with a mind so biased or imperfectly informed, that one sentence in the same paragraph contradicts the other!

"This is the more remarkable, when contrasted with his liberal views and benevolent aspirations, when he treats on the subject of improved intercourse generally; and when he brings under review designs, whose slender claims to public confidence, although they may have been expanded by eloquence, and honoured with banquets, to such he is but too forbearant. As we proceed, we shall comment on several of these schemes in seriatim, and in the mean time we return to our immediate subject.

“ By means of the Rajmahl line acting in concert with several prosperous and influential steam navigation companies established on the Ganges, Calcutta will have quick and easy access to the north-western provinces, through the heart of the indigo, opium, sugar, rice, cotton and silk districts, with a saving (for nine months in the year, when the smaller rivers between the Hooghly and Ganges are closed) of upwards of 300 miles of distance, by avoiding the tedious and perilous labyrinth of the Sunderbunds.”

With the postmaster's views as to the mode of introducing the railway system into India we cannot fully concur, any more than we can with Mr. Macdonald Stephenson's. The postmaster is infected with Morrisonian views, whether entrapped by their plausibility, being fresh from India, or whether with the view that, by their inculcation, his advocacy of the claims of the Great Western of Bengal will be received with more complacency by the powers that be. Our conviction, and that of every practical man, is, that the Morrisonian system is a mischievous delusion; the operation of which would be to cramp the progress of the railway system, and so deprive the public of its benefits. It is one of those economical fallacies which have so frequently misled men of more talent than judgment, and is founded on the system of sacrificing a large aggregate result to obtain a small aggregate result. What we want at the present moment is the extension of the railway system; when that is effected, we may, if we think fit, look at the Morrisonian system.

Our view as to the introduction of railways in India is that there should be no government interference, and no monopoly of any individual Company. Let as many companies start as can; if they choose to waste their money let them; that is their business and not that of the government. The first Company that pays 10 per cent. will give the real impulse to railways in India. This is not the new fangled, the French, or the Morrisonian system; but it is the good old English system; the only one which has worked well, and which we are not ashamed of avowing in these days, when the *Times* and “Cato” are at large, the Board of Trade rampant, and when it is almost held a crime for a man to uphold the old and sound doctrine of political economy, to let men manage their own affairs their own way. At the end of three hundred years political economy seems to have gone back again, the *laissez faire* principle to be superseded, and the exploded doctrines to be revived.

We cannot agree with the postmaster that a general system should be laid down for India before a line is selected, for we know by experience that more blunders would be produced by such a plan than avoided by it, while the principle of government meddling would be acknowledged. We concur with him in deprecating monopoly, and therefore we fear the least approach to it.

Timeo Danaos, donaque ferentes.

We do not even advocate a government guarantee, partly for the same reason, and partly because we think it unnecessary. We believe railways in India can do without it; the best guarantee is that the government will use the lines, because they cannot do without them.

CLARKE, FREEMAN, AND VARLEY'S PATENT IMPROVEMENTS IN OBTAINING AND APPLYING MOTIVE POWER.

[Patent dated February 11, 1846 ; Specification enrolled August 11, 1846.]

Fig 1.

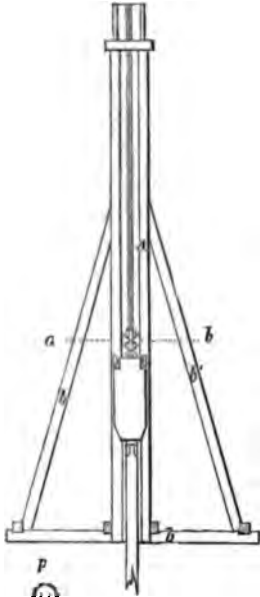


Fig 2.

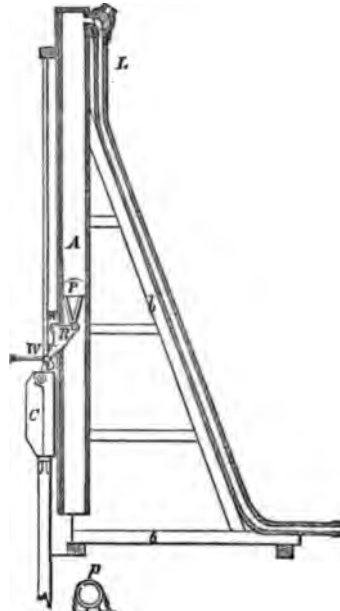


Fig. 3.

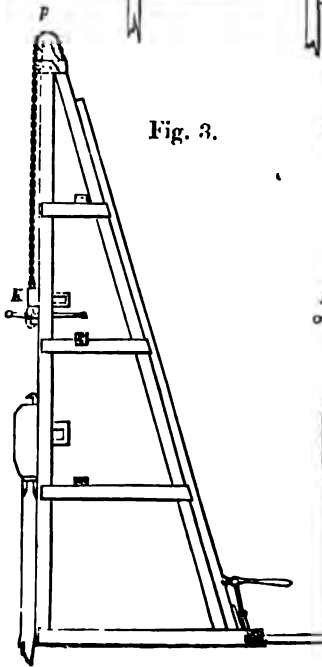
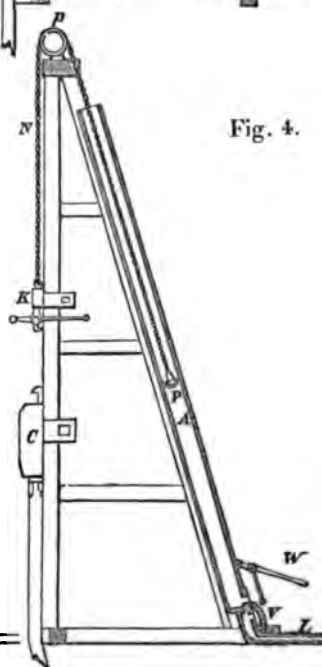


Fig. 4.



THE same patent which includes the atmospheric system, described in our last, also comprises some other improvements in the application of motive power.

One of these applies to pile-driving engines.

“Fig. 1 represents an elevation, and fig. 2, a vertical section of a pile-driving engine, with our improved working appendages. BB is the framework, A is a wrought iron cylinder composed of two sections (lengthwise) bolted together, and having a longitudinal slit in it, similar to the traction tube of atmospheric railways, which slit is faced with some strong flexible substance, capable of withstanding without injury considerable degrees of heat, as sulphurised caoutchouc, or sulphurised gutta percha. P is a piston of a semi-globular form, which is linked to a connecting plate R, which slides on guide wheels, WW, in the longitudinal slit, and has the monkey C suspended from it as shown. The cylinder is closed at top to the atmosphere, but a flexible tube, *b*, serves to establish a communication between the upper part of the cylinder and an exhausting apparatus, which may be placed close at hand, or at any convenient distance. The lower end of the cylinder is left open. The monkey is raised by exhausting the air from the top of the cylinder, and admitting the external atmosphere beneath the piston, and is let fall from the top in the usual way.

“Fig. 3 exhibits a side elevation of an engine, in which an exhausting cylinder is employed without any slit, and fig. 4 is a vertical section of the same. A is the cylinder which is left open at the top, and communicates at bottom with the flexible tube L, which leads to the exhausting apparatus. A chain, N, attached at one end to the piston P within the tube, passes over a pulley, *p*, at the top of the engine, and is connected with a counterpoise, K, the weight of which is greater than that of the piston and chain, so that when the piston is drawn to the bottom of the cylinder by the exhaustion of the air from the part of the cylinder beneath the piston, the counterpoise is sufficiently heavy to raise it to the top again, to be in readiness for the next exhaustion. V is a slide-valve; W a hand-lever by which the valve is worked. The valve in the position shown in the engraving, is represented as opening the communication between the cylinder A and the exhausting pipe L; but when the lever W is moved into the position indicated by the dotted lines, the tube A is then open to the atmosphere, and the counterpoise again brings the piston to the top of the tube, to be in readiness for the next exhaustion. A pile-engine on the same plan as those before described may be worked by means of low or high pressure steam, the cylinder being in that case made without any slit in it, and the steam being admitted below the piston to raise it, and then either condensed by a jet of water, or let off into the atmosphere.”

Another is a lifting pump for deep mines, and is of ingenious construction:—

“The pumps now ordinarily employed to raise water from deep mines and other places are worked by rods and levers direct from the first mover. Now in place thereof we substitute an air pump, the piston of which is connected direct with the pump-rod of the water-pump. This air-pump we connect with the first mover by means of an exhausting tube or cylinder, by which we exhaust the air on one

Fig. 5.

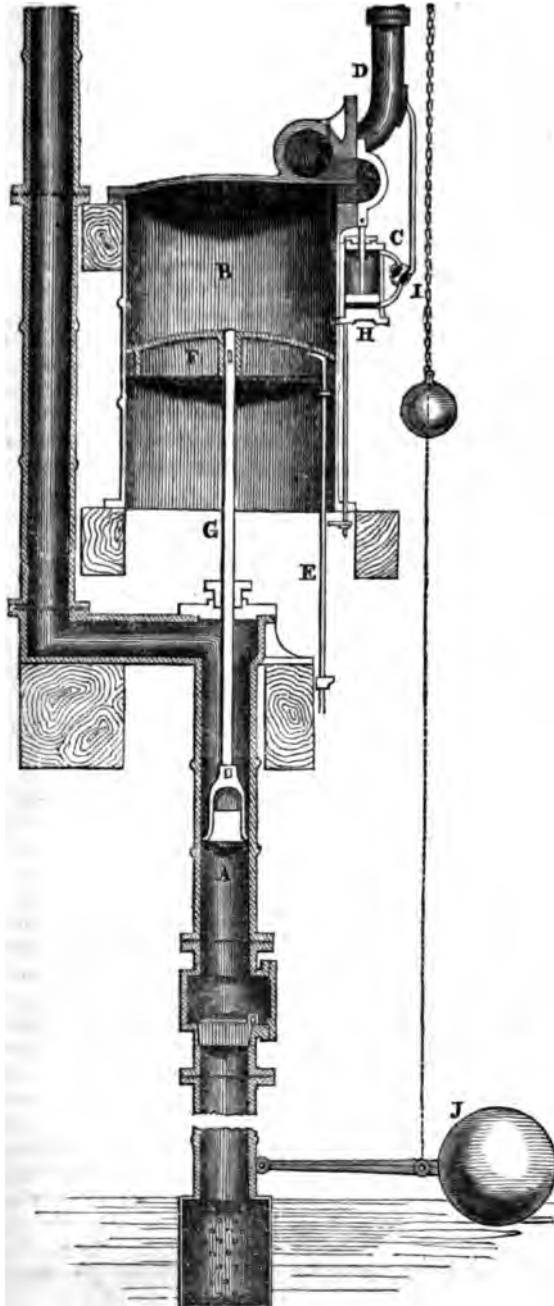
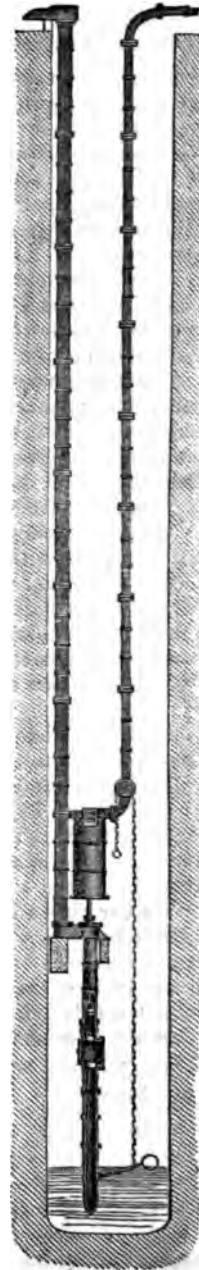


Fig. 6.



side of the piston of the air-pump, and allow the pressure of air to act on the opposite side. The water-pump bucket, being connected with the air-pump piston-rod, lifts the water contained in the water-pump at the same time. From this general description it will be obvious that the water may be raised to any height by making the air-pump of a capacity commensurate with that of the water-pump, due regard being paid to the height to which the water is to be raised, and the degree of exhaustion to be attained.

“ Fig. 5 represents a sectional elevation of a pump on this plan. A is the water pump; B, the air cylinder; D, the connecting pipe; C, the slide valve; H, a small cylinder to work the slide valve by the exhaustion; I, a small four-way cock, to allow the exhaustion to act above or below the piston in the cylinder H. The piston, F, of the large cylinder is attached direct to the pump bucket, A, by the rod, G, the bottom of the cylinder, B, being open; E is a small rod which is fastened at its upper end to the piston, F, and partakes of its motion. At the top and bottom of this rod are two tappets, which at the top and bottom of each stroke shift the position of the four-way cock I. A small force suffices to turn the cock I, and then the exhaustion shifts the slide C with quickness and certainty—the power to move the slide increasing in the same proportion as the friction on the slide valve (caused by the pressure of the air on the face of the slide). J is a float, which rises and falls with the water, and opens and closes a throttle valve in the pipe, D, so that when the water in the mine gets low, the float closes the throttle valve, and when it accumulates again it re-opens the valve, and the pump commences working. The cylinder, B, may be exceedingly thin, as the pressure will be external, and will never exceed 12 or 13lbs. on the inch.

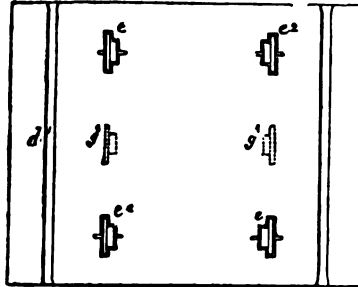
“ Fig. 6 is the section of a shaft with pump-work complete.”

PATENT SECTIONAL TRANSFERABLE CARRIAGES TO AVOID THE BREAK OF GAUGE.

BY CAPT. POWELL, OF THE GRENADIER GUARDS.

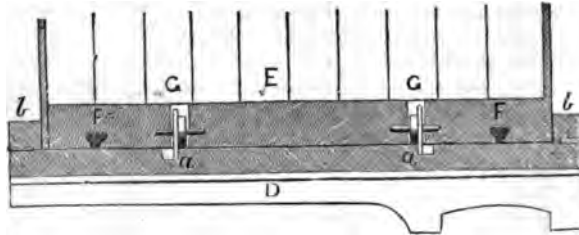
THE principal feature of this invention is, that the upper part of the carriages is moveable by the use of small wheels and slides from the under carriage; and therefore they can be transferred from the under carriage, of the breadth of the narrow gauge, to the under carriage, of the breadth of the broad gauge, or on to an under carriage fitted with wheels adapted to the common road; so as to be conveyed thereon from one station to another, or into the country. The dimensions of the floors of the boxes, to be conveyed, are, the *width* of the narrow gauge; and the *length*, the width of the broad gauge: the bottoms of these boxes are to be double, so as to have sufficient thickness to allow of four friction wheels being placed in them without protruding through the bottom of the box, and it is on these four wheels that the boxes work; and it is therefore obvious, that they must be of sufficient strength to bear the weight of the boxes when loaded. In fig. 1, they are shown at *e, e, e^e, e^e*: *g¹, g¹*, are extra ones, that may

Fig. 1.



be applied if there are any required by a larger proportion of weight than is usually carried; they are also provided with grooves which traverse on guide-rails, which are affixed to the under carriage, and assist in preventing lateral motion; and also confine the boxes on to the floor of the carriage; so that even were it turned over, the box would still adhere to the under carriage. In fig. 1, they are marked *d*. Fig. 2, shows a section cut through the under carriage with a box

Fig. 2.

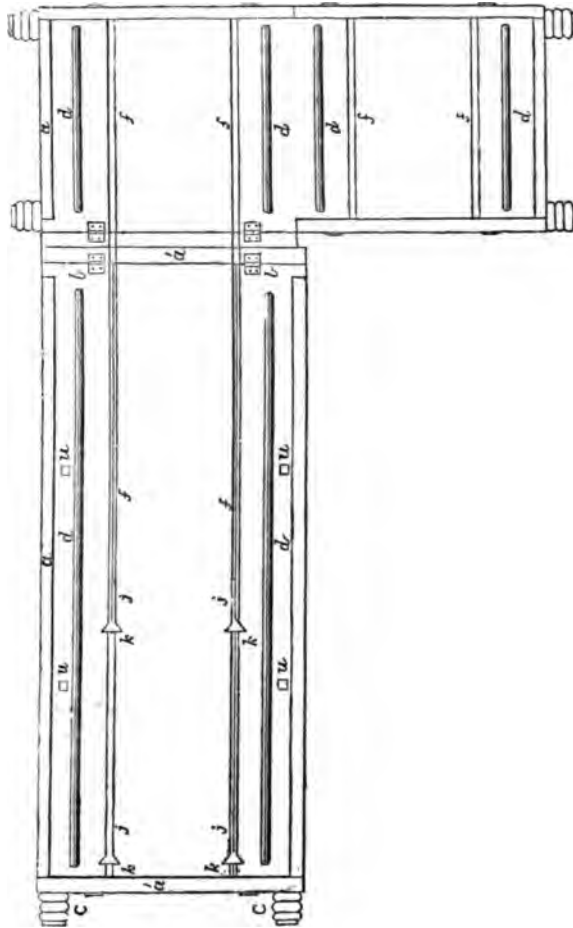


on it; *a a* are rails indented on the floor of the under carriage on which the wheels *G G* work; *F F* the dovetail slides attached to the floor of the under carriage, with the corresponding grooves in the bottom of the box.

In order that no space may be lost to either gauge, the boxes on the narrow gauge travel long-ways, and on the broad gauge side-ways, as will be seen in the plates of the elevations of carriages, on the respective gauges.

Fig. 3, shows the ground-plan of the floors of two under carriages: the one on the narrow; the other on the broad gauge. The sides of these carriages through which the boxes traverse are let down, they having hinges for this purpose (as shown in this plate at where they meet): and all sides of the under carriages through which the indented rail, marked *fff* on the floor of the under carriage, passes, are made to let down at pleasure by the use of hinges. These sides rest on the buffer of the broad gauge carriage: *d d* on this plate show the dovetailed slides as already explained; *ff* show the indented rail floors, which it will be perceived, on the sides being let down, give a free passage for the friction wheels from the narrow gauge carriage to the broad, or *vice versa*. This plate shows an under carriage of the narrow gauge,

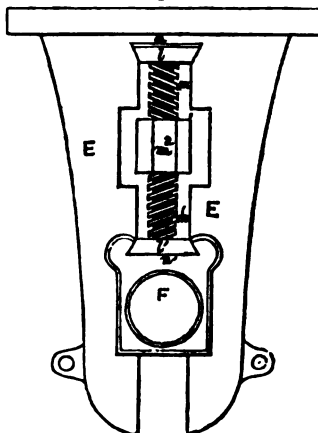
Fig. 3.



capable of conveying two boxes; and of the broad, capable of conveying three. It is obvious, that the two carriages must be placed at right angles to one another, in order to effect a transfer of the boxes; where the lines cross, this would naturally be the case; but where they are parallel, a turn-table would be requisite to place them in the desired position: *k f* are stops to be placed in indented rails to prevent the friction wheels moving after the box has been placed on the under carriage; and *u u* are holes made for stanchions to be placed in the floor, in case there were only one or two boxes to be conveyed instead of three; or one or more were removed during the journey: it is also obvious that to effect the transfer the floors must be level; of course the ground at the place of transfer would be made so as to effect that object as nearly as possible; but to complete it, and at the same time to prevent

the springs from being injured by the sudden weight coming on them, the use of an adjusting screw will be necessary; on the springs would be a medium mark, called "the transfer level." The carriages waiting at the station for the train about to arrive, would be adjusted previous to its arrival to the transfer level, and the others would be so as they came up to be discharged; that is, the one in the rear of that undergoing the operation of discharging its cargo into the carriages of the other gauge, would be, during the operation, adjusted to the transfer level, and thus no time would be lost when it came to its turn to undergo the operation. The adjusting screw in the plate is as follows:—

Fig. 4

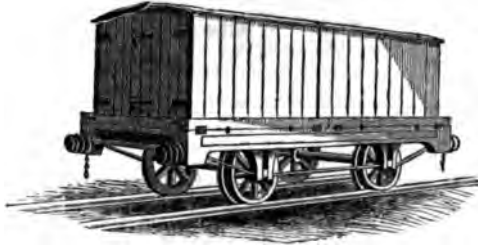


represents an enlarged view of the axle support and guide, with the brasses in which the axles revolve. It will easily be perceived that a dovetail notch or groove is formed both to the axle brasses and to the support guides, the object of which is to enable the double-handed jack screw, with dovetails to fit, to be inserted therein, so as either to bring the brasses closer or wider apart from the frame A A, as may be required, and thereby adjust the respective heights of the two carriages when it is necessary to slide the body of the carriage from one carriage-bed on to another; E E, shows the support guide secured to the under side of the frame A A. F, the brasses sliding in suitable grooves in which the axle revolves; *l*, and *l'*, are two dovetails: *l* is formed in the support guide E E, and *l'* in the axle brass F. G is a double-handed jack-screw with the regulating nut or coupling *m*; the screw is in two parts, each part being furnished with dovetails to fit into the dovetail grooves or notches *l*, and *l'*, in the support guide E E, and axle brasses F. One of these parts may be a right-handed screw, and the other a left-handed screw, and the coupling or nut *m*, must have a right and a left-handed female screw, formed therein. The external shape of the coupling or nut may be square or octagonal as may be thought most convenient to be turned by a spanner, wrench, or key made to suit. Now it is obvious that when the coupling nut *m* is turned round in the direction which shall cause the dovetails to come closer to each other, it will draw downwards the frame A A, to which the support guide, E E, is fixed;

and when the reverse action is required by turning the coupling nut *m*, in the contrary direction, the dovetails will be released and press against the flat surfaces *n* and *n*¹, thereby causing the frame A A, to which is secured the support guide E E, and the axle brasses, to become at a greater distance apart from each other. On different kinds of springs a screw of the same description would be used with a slight difference as to fixing the ends of it.

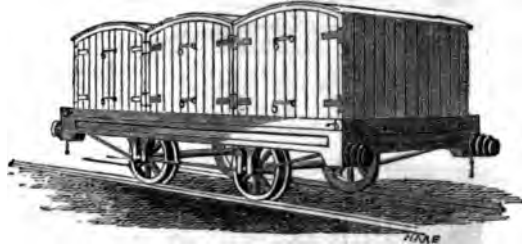
Plate 5, is an elevation of a narrow gauge carriage, with two boxes

Fig. 5.



thereon. Plate 6, is an elevation of a broad gauge carriage with three

Fig. 6.



boxes thereon; by observing how the positions of the doors of the boxes are altered by changing from one gauge to the other, what was before mentioned, as to the boxes in one case travelling long-ways, and in the other broad-ways, is seen. This arrangement of having the boxes the length of the one and the width of the other prevents any loss of space to either gauge, and enables a broad gauge under carriage to carry in proportion of nearly three to two what a narrow gauge carriage can convey.

The whole of the operations which are shown in the following plates, are, after the respective sides are let down, performed by manual labour. The inventor at first thought that in passing the boxes, moving on the rail wheels fixed in the double bottoms of them, on the indented rail, fixed on the floors of the under carriages of the broad gauge, the narrow gauge and the common road truck, some mechanical power would be requisite, and provided accordingly; but was told by a great many practical men that two men would pass from a box, however heavily laden (moving on these rails) from one to the other, without the slightest difficulty; and if any body will observe the ease with which two men can move two or three large carriages at a railway

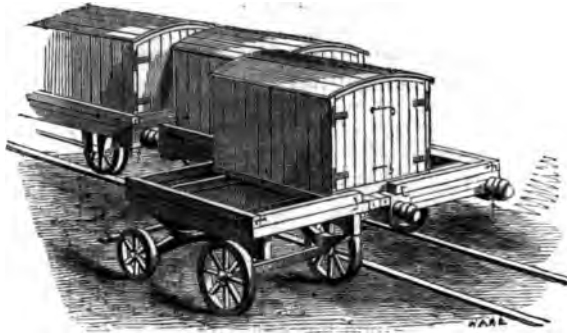
station, there is no doubt such will be found to be the case ; but if not, there is a mechanical power invented that can be used, if required.

Fig. 7



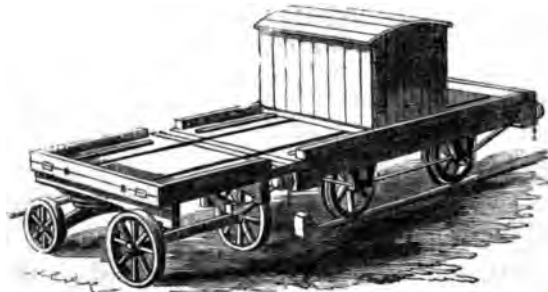
is the elevation of a road truck with a box on it. The floor of this truck is fitted with dovetailed slides and an indented rail, for the wheels in the bottoms of the boxes to traverse on, precisely similar to the fittings of the floors of the under carriages of the narrow gauge. The sides also of the road truck through which the indented rail passes, are made to let down by the use of hinges ; as may be seen in plate, fig. 8, where a box is undergoing the operation of shifting from the

Fig. 8.



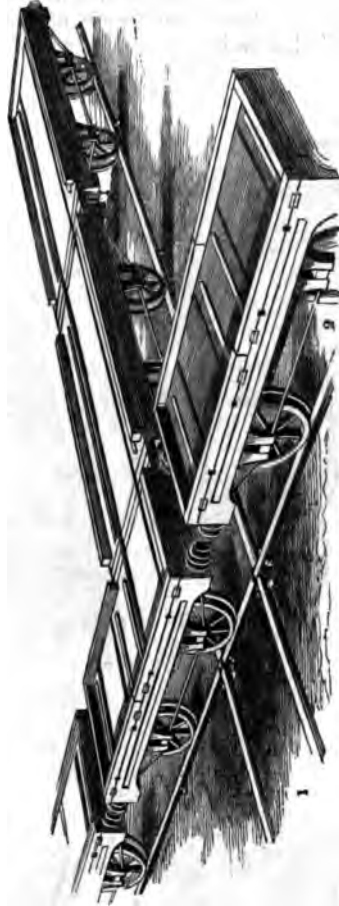
road truck to one of the narrow gauge carriages. These ends are, of course, after the operation is performed, again shut up in their places and secured, which tend to keep the boxes in their places during their transit.

Fig. 9



is one of the road trucks transferring a box to the broad gauge truck. This operation is exactly similar to the changing to the narrow gauge; except that as it will be necessary that the broad gauge truck should come end foremost to the road truck, instead of sideways, as in the narrow gauge, a turn-table will be required, which will effect that object without the slightest difficulty. Plate, fig. 10, shows the under

Fig. 10.

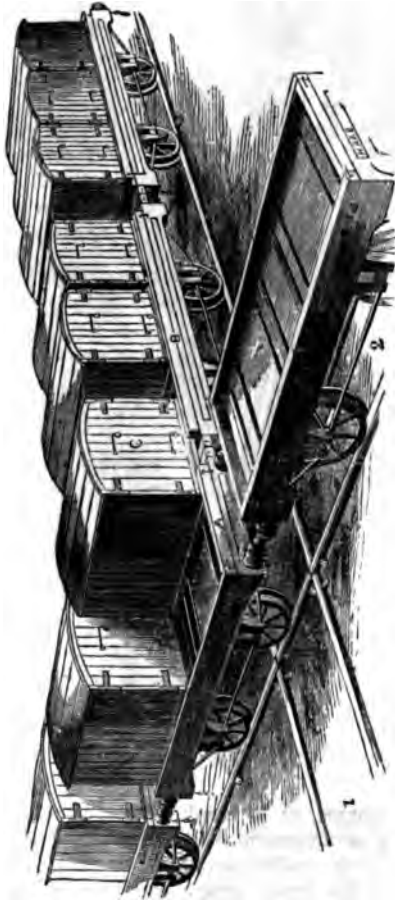


carriages of both gauges, at a break of gauge, without any boxes on them, whereby the arrangement of the dovetailed slides and indented rails on the floors of the under carriages is shown. It will be seen that by all the ends of the broad gauge carriages being let down, a free passage for a box is left from one end of the train to the other; so that the first box that is changed over does not remain on the under carriage nearest the point of junction, but is passed down over all the under

carriages, so as to become the first box at the extreme end of the new line; this will save much time, as otherwise as soon as one carriage was loaded it would have to be moved and another brought up. By this means the broad gauge under carriages would never be moved during the operation of transferring the goods, however long the train might be.

Plate, fig. 11, shows carriages complete, at the break of gauge, with a box undergoing the operation of being changed from the narrow gauge to the broad. It will here be plainly observed, from the peculiar construction of having these boxes the length of the width of the broad gauge, that no space is lost to it. In reference to what was previously

Fig. 11.

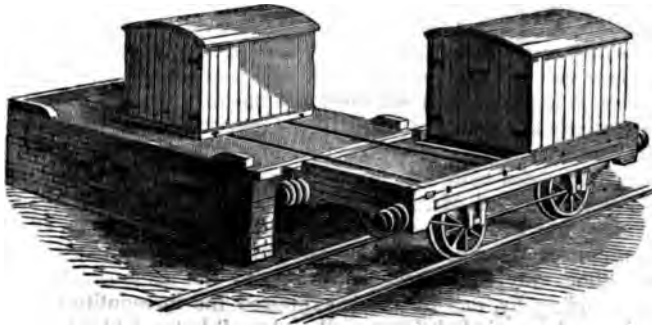


said as to the boxes passing over the first carriage in plate, fig. 10, the boxes which were taken from the unloaded carriage in front of the

loaded carriage marked A, were, in the first instance, placed on the broad gauge carriage B; but were passed on to the next carriage to afford room for those behind them.

Plate, fig. 12, is a view of a platform, fitted with dovetailed slides, and an indented rail, at the height of the transfer level; and in cases where boxes filled with goods, &c. are to be left at the station, the boxes can be transferred on to this platform; where, as will be seen by the plate, they are perfectly available to be unpacked. This arrangement leaves the under carriage, which is the most expensive part of the carriages at liberty to return, and take back empty boxes, and return with full ones. This arrangement especially applies to the letters received

Fig. 12.



by the inventor from the collieries, on the subject of so much capital being invested in carriages, from their having to wait four and five days for unloading. The broad gauge carriages discharge their cargo in precisely a similar manner, except they require a turn-table, to bring them end-on to the platform, if it is built parallel to the line; but if it was built at the end of the rail, none would be required.

TENSION BRIDGE OVER THE HOOGHLY.

We have been favoured by Capt. Goodwyn, R.E., and Mr. Weale, the publisher, with a beautiful drawing, prepared for private circulation, of Capt. Goodwyn's bridge over the Hooghly. We regret we have not the dimensions.

This bridge is a re-construction, an improvement on Dredge's system, by an improved tension, and better security and fastenings in the centre; it has proved a successful accomplishment of cheap and efficacious construction, and has lightness and elegance of structure, without any diminution of stability. So well is it considered by the editor of that important work "Papers on the Royal Engineers," of which 8 vols. are published, that Mr. Weale has specially retarded the publication of vol. 9 for the insertion of the important details of this bridge, and which will be comprised in 8 to 10 plates, now in the hands of the engraver.

The view we now have before us is drawn and admirably lithographed, and has been executed specially for distribution among the honourable directors of the East India Company, and is not for sale.

Capt. Goodwyn gave some valuable evidence, it will be remembered, on Indian railways.

GUN COTTON.

ONE of the most important purposes to which this novel invention of Professor Schænbein's may be applied, is that of blasting rocks in mining and railway operations. It is well known that there is considerable inconvenience attending the use of gunpowder in mines, owing to the smoke which arises immediately after the blast, and that, in close and badly-ventilated levels, much time is lost in consequence of the men not being able to resume their work until this smoke has gradually subsided. This is entirely obviated by the use of the gun cotton, the combustion of the latter being complete. This has been proved by various experiments, but none have been more conclusive than those recently made by Professor Schænbein and Mr. Richard Taylor, in Cornwall, where it was shown that three ounces of the gun cotton were equal in effect to thirteen and a half ounces of gunpowder. The rock was shivered to pieces without any appearance of smoke, to the astonishment of the miners standing by, one of whom expressed his incredulity by saying that "he wudna moind sittin upon that stoan," but quickly changed his note on observing the effects.

We sincerely hope that the patent right will be so worked out as to make this valuable discovery available to the mining community, without loss of time.

GROSS RECEIPTS OF RAILWAY TRAFFIC,

FOR

THE LAST WEEK OF SEPT. AND THE THREE FIRST WEEKS OF OCT.

Total amount authorized to be raised.	Total amount already expended.	Last Dividend.		NAME OF RAILWAY.	Sept. last week.	Oct. first week.	Oct. second week.	Oct. third week.
		Per share.	Per cent. per ann.					
£	£	£ s. d.	£ s. d.		£	£	£	£
160,000	140,303	—	3 0 0	Arbroath and Forfar .....	....	295	254	254
1,441,163	1,527,267	3 0 0	6 0 0	Birmingham and Gloucester ..	....	....	....	....
—	667,823	20s. } 12s. } 13s. } (6sd.) }	4 0 0	Bristol and Gloucester .....	....	....	....	....
800,000	658,000	—	2 12 0	Chester and Birkenhead	696	811	674	674
—	631,258	1 4 0	3 14 0	Dublin and Drogheda	805	763	753	....
337,000	349,736	—	9 0 0	Dublin and Kingstown	904	1,239	878	803
200,000	153,598	3 0 0	6 0 0	Dundee and Arbroath.....	317	415	322	305
362,000	302,118	0 10 0	2 0 0	Durham and Sunderland	387	658	647	645
4,644,621	4,090,328	E 9s. } N. 5s. } 30s. }	E. 6s. } N. 5s. }	Eastern Counties and Northern and Eastern	9,544	10,034	9,526	10,000
—	—	—	—	Eastern Union	405	429	405	405
1,600,000	16,86,226	1 10 0	6 0 0	Edinburgh and Glasgow	4,222	4,206	4,017	4,278
1,453,900	1,104,773	1 15 0	7 0 0	Glasgow, Paisley, and Ayr	2,382	2,462	2,815	2,306
863,696	800,134	0 5 0	2 0 0	Glasgow, Paisley and Greenock ..	1,134	1,057	960	988
2,364,333	2,567,317	5 0 0	10 0 0	Grand Junction, amalg. with London & N. Western	....	....	....	....
—	—	—	—	Great Southern and Western ...	019	882	866	1,081
8,160,000	8,179,980	3 4 0	8 0 0	Great Western.....	20,013	20,485	19,609	20,056
—	—	—	—	Hartlepool.....	906	1,023	929	929
—	701,740	1 10 0	6 0 0	Hull and Selby, amal. with York and N. Midland	....	....	....	....
2,637,375	1,774,331	5 0 0	10 0 0	Liverpool and Man., amal. with Bir. & N. Western	....	....	....	....
14,306,708	15,047,301	5 0 0	10 0 0	London and North Western. ...	42,129	43,953	41,129	42,060
1,069,000	1,078,781	0 2 6	1 10 0	London and Blackwall	1,122	1,076	10,071	846
3,841,333	3,496,265	1 4 6	5 0 0	London, Brighton and South Coast	10,340	10,697	10,071	8,323
—	—	—	—	London and Croydon amalg with London, Brighton, and South Coast	....	....	....	....
4,212,000	2,620,724	2 2 6	10 4 10	London and South Western....	7,143	7,747	6,909	6,813
2,893,000	2,197,585	1 3 10½	6 2 4	Manchester & Birmingham amal with Lon & N. West	....	....	....	....
4,743,333	3,372,240	2 18 0	8 0 0	Manchester and Leeds	7,846	7,441	9,279	8,849
650,000	842,723	2 14 0	5 16 0	Manchester and Bolton, and Bury	1,237	....	....	....
7,757,963	8,179,980	3 10 0	7 0 0	Midland.....	20,404	21,226	19,959	19,067
—	—	—	—	Newcastle and Berwick.....	612	581	569	483
1,250,000	1,137,385	—	5 0 0	Newcastle and Carlisle.....	2,200	2,209	2,015	2,013
—	1,272,031	1 2 6	9 0 0	Newcastle and Darlington .....	....	....	....	....
216,000	316,869	1 5 0	5 0 0	Newcastle and North Shields ..	....	....	....	....
—	573,818	0 10 0	5 0 0	Norfolk	1,621	1,601	1,558	1,552
266,666	—	—	—	North British	1,914	1,347	1,261	1,208
—	1,060,551	3 7 6	6 15 0	N. Union & Bolton & Preston, amal. with Man. and Leeds	....	....	....	....
450,000	432,014	0 12 6	2 10 0	Preston and Wyre	997	951	764	697
1,533,000	1,313,225	—	5 0 0	Sheffield and Manchester	1,995	1,970	1,809	1,812
—	520,942	—	—	South Devon.....	515	1,180	376	369
3,817,277	4,284,924	0 16 0	3 4 0	South-Eastern and Dover	11,004	11,052	10,403	9,460
640,000	648,348	3 3 0	5 0 0	Taff Vale	1,364	1,385	1,424	1,304
933,035	358,853	—	5 10 0	Ulster	765	744	790	754
—	—	—	—	York and Newcastle	5,816	5,997	6,509	6,940
988,666	2,334,509	50s., 25s.	10 0 0	York and North Midland.....	8,194	7,647	6,857	7,089
FOREIGN RAILWAYS.								
7,203,000	—	3 0	4 0 0	Northern of France .....	....	....	10,000	10,089
2,600,000	590,040	0 2 5	4 0 0	Orleans and Bordeaux .....	....	....	3,513	3,605
2,000,000	2,082,916	0	9 10 0	Paris and Orleans .....	....	....	9,222	9,312
2,400,000	—	—	8 0 0	Paris and Rouen.....	8,061	8,170	7,648	7,125

Shares.	Railways.	Paid.	CLOSING PRICES.			
			October 5.	October 12.	October 19.	October 26.
£		£				
50	Aberdeen	29	6½ — 5½ dis	6½ — 5½ dis	5½ — 4½ dis	5 — 4
100	Amber, Nott, Boston, & E. Jun.	29	129 — 131	127 — 129	128 — 130	129 — 131
25	Birmingham and Gloucester..	17½	31½ — 32½	30 — 32	30 — 32	30 — 32
20	Do. New (issued at 7½ dis.)	2	3½ — 4 pm	3 — 3½ pm	3½ — 4 pm	4 — 5
100	Birmingham and Oxford Junc.	75	8 — 10 pm	7 — 9 pm	5 — 7 ex d	5 — 7
33½	Bristol and Exeter	5	4½ — 5½ pm	4½ — 5½ pm	3½ — 4½	4½ — 4
50	Do. New	30	19 — 21 pm	19 — 21 pm	20 — 22 pm	20 — 22
17½	Bristol and Gloucester	84s.	1 — 2 dis	1 — 2 dis	1 — 2 dis	1 — 2
50	Buckinghamshire	25	4½ — 5½ dis	3½ — 4½ dis	4 — 5 dis	4 — 5
25	Caledonian	2½	1 — 1 dis	1 — 1 dis	1 — 1 dis	1 — 1
25	Do. Extension	2½	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	1 — 0½
50	Chester and Holyhead	27½	4½ — 3½ dis	5 — 4 ex in	4½ — 3½ ex in	4 — 3
20	Churnet and Blythe	2	.. ..	.. ..	.. ..	.. ..
25	Cork and Waterford	1½	.. ..	.. ..	.. ..	.. ..
50	Cornwall	5	4½ — 4 dis	4½ — 4 dis	4½ — 4 dis	4½ — 4
25	Do. ½ Shares	2½	2 — 2	2 — 2	2 — 2	2 — 2
25	Direct Northern	29	1½ — 1 dis	1½ — 1 dis	1½ — 1 dis	1½ — 1
50	Dublin and Belfast Junction	10	8 — 6 dis	8 — 6 dis	9 — 7 dis	8 — 6
50	Dundalk and Enniskillen	10	.. ..	.. ..	.. ..	.. ..
Average	Eastern Counties	14.16.0	21½ — 21½	21½ — 21½	21 — 21	21 — 21½
14.16	Do. New	12.16.0	6½ — 6½ pm	6½ — 6½ pm	6 — 6	6 — 6½
6.13.4	Do. Perpet. 5 per cent. No. 1.	6.13.4	.. ..	.. ..	.. ..	.. ..
6.13.4	Do. do	6.13.4	.. ..	.. ..	.. ..	.. ..
20	Do. York Extension	2	1 — 1 pm	1 — 1 pm	1½ — 1½ pm	1½ — 1½
25	East Lancashire	14	4 — 5 ex n	3½ — 4½	3½ — 4½	4 — 4½
50	Do. New	5	1 — 2 pm	2 — 3 pm	2 — 3 pm	3 — 3½
50	East Lincolnshire	1½	.. ..	.. ..	.. ..	.. ..
50	Eastern Union	35	.. ..	.. ..	.. ..	.. ..
25	Edinburgh and Glasgow	50	71 — 73	68 — 70	69 — 71	69 — 71
12½	Do. ½ Shares	10	8½ — 9½ pm	8 — 9 pm	7½ — 8½ pm	8 — 9
25	Do. ¼ Shares	12½	17 — 18	17 — 18	16 — 17	16½ — 17½
12½	Edinburgh and Northern	10	½ dis — ½ pm	½ dis — par	½ dis — ½ pm	½ — ½
18	Edinburgh and Perth	3	.. ..	.. ..	.. ..	.. ..
50	Ely and Huntingdon	7½	.. ..	.. ..	.. ..	.. ..
50	Exeter, Yeovil, & Dorchester	6½	2½ — 1½	2½ — 1½ dis	2½ — 1½ dis	2 — 1½
50	Glasgow, Kilmarnock, & Ayr	50	68 — 72 ex n	68 — 70 ex n	65 — 70 ex n	65 — 70
40	Do. New	15	.. ..	.. ..	.. ..	.. ..
12½	Do. ½ Shares (5 per Cent. guaranteed)	12½	.. ..	.. ..	.. ..	.. ..
20	Goole, Doncaster, and Sheffield	42s.	.. ..	.. ..	.. ..	.. ..
50	Great South & West. (Ireland)	27½	2½ — 3½ pm	2½ — 3½ pm	2 — 3 pm	2½ — 3½
100	Great North of England	100	227 — 230	232 — 235	236 — 238	236 — 238
40	Do. New	5	53 — 56 pm	54 — 57 pm	56 — 58 pm	55 — 57
30	Do. New	15	35 — 37	37 — 39	39 — 41	39 — 41
15	Do. New	1½	17 — 18 pm	19 — 20 pm	19½ — 20½	19½ — 20½
100	Great Western	85	51 — 53	45 — 50 pm	51 — 54 pm	51 — 54
50	Do. ½ Shares	50	29 — 31	25 — 30	28 — 30	29 — 30
25	Do. ¼ Shares	10	9½ — 10½	8½ — 9½	9 — 10	9½ — 10½
20	Do. Fifths	20	10½ — 11½	10 — 11	10½ — 11½	10½ — 11½
17	Do. New	2	.. ..	.. ..	.. ..	.. ..
50	Hull and Selby	50	104 — 106	106 — 108	107 — 109	108 — 109
12½	Do. ½ Shares	12½	8½ — 9½ pm	9 — 11 pm	10 — 12 pm	11 — 12
25	Do. ¼ Shares	25	25 — 26 pm	26 — 28	27 — 29	28 — 29
25	Ipswich and Bury St. Edmund's	11½	.. ..	.. ..	.. ..	.. ..
25	Do. Ipswich and Bury and Norwich	2½	.. ..	.. ..	.. ..	.. ..
50	Lancaster and Carlisle	45	14 — 16 pm	12 — 14 pm	14 — 16 pm	17 — 19
50	Do. New	5	4½ — 5½ pm	4 — 5 pm	4½ — 5½ pm	5 — 6
20	Leeds and Bradford	50	44 — 45	43 — 45 pm	43 — 44 pm	43 — 44
20	Leicester and Birmingham	22s.	1 — 0½ dis	1 — 0½ dis	1 — 0½ dis	.. ..
20	Leicester and Bedford	22s.	.. ..	.. ..	.. ..	.. ..
25	Liverpool, Manchester, and Newcastle Junction	2½	.. ..	.. ..	.. ..	.. ..
Average	London and Blackwall	16.13.4	9 — 9½	9 — 9½	9 — 9½	9 — 9½
50	Do. New	8	1½ — 2½ pm	1½ — 2½ pm	2 — 2½ pm	2 — 2½
50	Do. Extension	7½	.. ..	.. ..	.. ..	.. ..
Average	London and Brighton	50	58½ — 58½	59 — 59½	59½ — 60½	59½ — 60½
50	Do. Do. Fifths	40	7 — 8 pm	8 — 9	8 — 9	8 — 9
Average	London and Croydon	13.15.9	21½ — 21½	21½ — 21½	22 — 22½	21½ — 22½
9	Do. Guaranteed 5 per Cent.	9.0.0	.. ..	.. ..	.. ..	.. ..
Average	London and Greenwich	12.15.4	9 — 9½	9 — 9½	9 — 9½	9 — 9½
Stock	Do. Preference or Privilege	13.17.3	21 — 23 ex d	21 — 23	21 — 23	21 — 23
25	London and North Western	100	197 — 199	190 — 195	196 — 198	198 — 200
25	Do. Quarters	2	23 — 23 pm	18 — 20 pm	20 — 21 pm	21 — 22
25	Do. do. New	2	14 — 15 pm	14½ — 14½	14½ — 14½ pm	14½ — 15
20	Do. Fifths	2	17 — 19 pm	16 — 18	17½ — 18½ pm	17½ — 18½
12½	Do. Eighth G. J.	12½	.. ..	.. ..	.. ..	.. ..
25	Do. New ½ Shares G. J.	8	.. ..	.. ..	.. ..	.. ..
40	Do. 40 Shares L and M	8	.. ..	.. ..	.. ..	.. ..
Average	London and South Western	41.6.10	66 — 71	66 — 68	69 — 71	70 — 72
40	Do. New Consol Eighthths	40	13 — 15 pm	12 — 14 pm	13 — 15 pm	13 — 15

es.	Railways.	Paid.	CLOSING PRICES.			
			October 5.	October 12.	October 19.	October 26.
	Do. New	£ 22½	8 — 9	7½ — 8½	8 — 8½	8½ — 9
	Do. New	18	6 — 7	5½ — 6½	6 — 6½	6½ — 7
	London and York	2½	½ — ½ dis	½ — ½ dis	½ — ½ dis	½ — ½ dis
	Do. ¼ Shares	2½	.. ..	.. ..	.. ..	.. ..
	London, Salisbury, and Yeovil	2½	1½ — 1½ dis	1½ — 1½ dis	1½ — 1½ dis	1½ — 1½ dis
	Londonderry and Coleraine	12½	.. .. dis	.. .. dis	.. .. dis	.. .. dis
	Londonderry and Enniskillen	12½	.. ..	.. ..	.. ..	.. ..
	Lynn and Ely	15	.. .. pm	.. ..	.. ..	.. .. pm
	Lynn and Dereham	15	.. .. dis	.. .. dis	.. .. dis	.. .. dis
	Manchester and Leeds	82	20 — 25 pm	17 — 23 pm	22 — 24	22 — 24 pm
	Do. ¼ Shares	88	8 — 10	8 — 10	9½ — 10½	10 — 11
	Do. ½ Shares	2	4 — 5	3½ — 4½	3½ — 4½	3½ — 4½
	Do. Fifths	3	5½ — 6½	4½ — 5½ pm	5½ — 5½	5½ — 5½
	Do. Sixteenths	6½	1 — 2	1 — 2 pm	1½ — 1½	1½ — 1½
	Do. Extension	42s.	½ — 1½	½ — 1 pm	½ — 1	½ — 1
	Manchester and Birmingham	40	75 — 77	73 — 75	74 — 76	75 — 77
	Do. ¼ Shares, A	5	7½ — 7½ pm	6½ — 7½ pm	7 — 7½ pm	7 — 8 pm
	Do. do. B	5	7½ — 7½	6½ — 7½	7 — 7½	7½ — 8
	Do. do. C	1	7½ — 7½	6½ — 7½	6½ — 7½	7 — 7½
	Manchester, Buxton and Matlock	42s.	½ — ½ pm	½ — ½ pm	½ — ½ pm	½ — ½ pm
	Manchester and Southampton	2	1½ — ½ dis	1½ — ½ dis	1½ — ½ dis	1½ — ½ dis
	Midland	100	135 — 137	130 — 132	135 — 137	136 — 138
	Do. New	94	10 — 11 pm	8½ — 9½ pm	11 — 12½ pm	11 — 12 pm
	Do. Birmingham and Derby	100	109 — 111	105 — 110	107 — 112	108 — 111
	Newcastle and Berwick	15	10 — 11	10 — 11 pm	10 — 11 pm	11 — 12
	Do. North Shields	25	.. ..	.. ..	.. ..	.. ..
	Newark, Sheffield and Boston	1½	.. .. dis	.. ..	.. ..	.. .. dis
	Newmarket and Chesterford	2,12	½ — ½ pm	par — ½ pm	par — ½ pm	par — ½ pm
	Norfolk	100	131 — 134	131 — 134	130 — 134	130 — 134
	Do. ¼ Shares	7	3 — 4 pm	3 — 3½	3 — 3½	3 — 3½ pm
	Do. Extension	6	½ — ½ pm	1 — 1½ pm	1 — 1½ pm	1 — 1½ pm
	North British	25	7½ — 8	7½ — 8½ pm	9½ — 9½ pm	9½ — 10½ pm
	Do. ¼ Shares	11	9½ — 4 pm	3½ — 4	4 — 4½	4½ — 4½ pm
	Do. Fifths	5	.. ..	.. ..	.. ..	.. ..
	Do. ½ Shares	1½	.. ..	1½ — 1½ pm	2 — 2½ pm	2 — 2½ pm
	Do. Extension	0½	.. ..	.. ..	.. ..	.. ..
	Northern and Eastern	50	70 — 72	70 — 72	69 — 71	69 — 71
	Do. Scrip (issued at 5 disc.)	45	20 — 22	20 — 22 pm	19 — 21	19 — 21 pm
	Do. ¼ Shares	12½	17½ — 18½	17½ — 18½	17½ — 18½	17½ — 18½
	Do. New	1	19 — 21 pm	19 — 21 pm	18 — 20 pm	18 — 20 pm
	North Staffordshire	42s.	2 — 2½ pm	2 — 2½ pm	1½ — 2 pm	1½ — 2 pm
	Northampton, Banbury, and Cheltenham	2	½ — ½ dis	½ — ½ dis	½ — ½ dis	½ — ½ dis
	Oxford, Worcester, and Wolverhampton	12½	6 — 5½ dis	5½ — 5½ dis	6 — 5½ dis	6 — 5½ dis
	Portsmouth Direct	3½	½ — ½ pm	½ — ½ pm	½ — ½ pm	½ — 1 pm
	Preston and Wyre	25	31½ — 32½	30 — 32	30 — 32	32 — 35
	Do. ¼ Shares	4½	.. ..	.. ..	.. ..	.. ..
	Royston and Hitchin	1½	.. ..	.. ..	.. ..	.. .. pm
	Rugby and Leamington	42s.	.. ..	.. ..	.. ..	.. ..
	Sheffield and Manchester	160	.. ..	.. ..	.. ..	.. ..
	Ditto and Lincolnshire Junction	1½	.. ..	.. ..	.. ..	.. ..
	Do. and Great Grimsby	10	.. ..	.. ..	.. ..	.. ..
	Do. do. Extension	42s.	.. ..	.. ..	.. ..	.. ..
	Scottish Central	12½	5½ — 6½ pm	5½ — 6½ pm	5½ — 6½ pm	8 — 9 pm
	Scottish Midland	12½	3 — 2 dis	2½ — 1½ dis	2½ — 1½ dis	1 — 1½ dis
	Shrewsbury, Wolverhampton, and St. Staffordshire Junc.	2½	.. ..	.. ..	.. ..	.. ..
	Shrewsbury and Birmingham	3	½ — ½ pm	½ — ½ pm	par — ½ pm	par — ½ pm
	Shropshire Union	42s.	½ — ½ dis	½ — ½ dis	½ — ½ dis	½ — ½ dis
	South Devon	35	3 — 1 dis	5 — 2 dis	5 — 3 dis	5 — 3 dis
	South Eastern and Dover	33,2,4	37 — 38 pm	37½ — 38½	38½ — 38½	37½ — 38½ pm
	Do. New (issd. at £32) No. 1.	20	2 — 3 pm	2 — 3 pm	2½ — 3½ pm	2½ — 3½ pm
	Do. New (£33 6s. 8d.) No. 2.	12	1 — 2	1 — 2	1½ — 2½	1½ — 2½ pm
	Do. New (£30) No. 3.	15	½ — 1½ pm	1 — 2 pm	1½ — 2½ pm	1½ — 2½ pm
	Do. New (issd. at £15) No. 4.	2½	.. ..	½ — ½ pm	½ — ½ pm	½ — ½ pm
	Staines and Richmond	1	par — ½ pm	par — ½ pm	par — ½ pm	par — ½ pm
	St. Alban's, Hatfield, & Hertford Junction	42s.	.. ..	.. ..	.. ..	.. ..
	South Wales	5	1 — ½ dis	1½ — ½ dis	½ dis — .. par	1½ — 1 dis
	Vale of Neath	2	.. ..	.. ..	.. ..	.. ..
	Waterford and Kilkenny	11	6 — 5	7 — 5 dis	7 — 5 dis	7 — 5 dis
	Waterford, Wexford, Wicklow, and Dublin	1½	.. ..	.. ..	.. ..	.. ..
	Wexford, Waterford, & Valen.	18	1½ — 1 dis	1½ — 1 dis	1½ — 1 dis	1½ — 1 dis
	Welsh Midland	20	1½ — 1½ dis	1½ — 1½ dis	1½ — 1½ dis	1½ — 1½ dis
	West Riding Union	42s.	1 — 1½ pm	1 — 1½ pm	1 — 1½ pm	1 — 1½ pm
	Wills, Somerset, & Weymouth	10	5½ — 4½ dis	6 — 5 dis	6½ — 5½ dis	6½ — 5½ dis
	York and Carlisle	2½	2½ — 2 dis	2½ — 2 dis	2½ — 2 dis	2½ — 2 dis
	York and Newcastle	25	15 — 17 pm	16 — 18	16½ — 17½	17 — 18 pm
	Do. New	5	8½ — 9½ pm	10½ — 11½	11 — 12	11½ — 12½ pm

Shares.	Railways.	Paid.	CLOSING PRICES.			
			October 5.	October 12.	October 19.	October 26.
£		£				
50	York and North Midland . . .	50	94 — 97	94 — 97	94 — 97	94 — 96
25	Do. $\frac{1}{2}$ Shares	25	45 — 47	44 — 46	45 — 47	40 — 48
25	Do. Scarborough' Branch	25	45 — 47	44 — 46	45 — 47	40 — 48
50	Do. Selby	40	39 — 42 pm	38 — 40 pm	40 — 42 pm	41 — 43 pm
25	Do. Extension	20	17 — 18	17 $\frac{1}{2}$ — 18 $\frac{1}{2}$	17 $\frac{1}{2}$ — 18 $\frac{1}{2}$	18 $\frac{1}{2}$ — 19 $\frac{1}{2}$
	Do. E. & W. Riding Extensn.	5	9 $\frac{1}{2}$ — 10 $\frac{1}{2}$ pm	11 $\frac{1}{2}$ — 12 $\frac{1}{2}$ pm	11 $\frac{1}{2}$ — 12 $\frac{1}{2}$ pm	13 — 14 pm

FOREIGN RAILWAYS.

25	Barbadoes	1	.. ..	.. ..	.. ..	.. ..
20	Boulogne and Amiens	16	1 $\frac{1}{2}$ — 1 $\frac{1}{2}$ dis	1 $\frac{1}{2}$ — 1 $\frac{1}{2}$ dis	1 $\frac{1}{2}$ — 1 $\frac{1}{2}$ dis	1 $\frac{1}{2}$ — 1 $\frac{1}{2}$ dis
20	Bordeaux, Toulouse, & Cette, (Mackenzie's)	2	1 — 1 $\frac{1}{2}$ dis	1 — 1 $\frac{1}{2}$ dis	1 — 1 $\frac{1}{2}$ dis	1 — 1 $\frac{1}{2}$ dis
20	Bordeaux, Toulouse, & Cette, (Espelet's)	2	1 — 1 $\frac{1}{2}$ dis	1 — 1 $\frac{1}{2}$ dis	1 — 1 $\frac{1}{2}$ dis	1 — 1 $\frac{1}{2}$ dis
	Calcutta & Diamond Harbour	7s.	.. ..	.. ..	.. ..	.. ..
20	Central of Spain	2	1 $\frac{1}{2}$ — 1 $\frac{1}{2}$ dis	1 $\frac{1}{2}$ — 1 $\frac{1}{2}$ dis	1 $\frac{1}{2}$ — 1 $\frac{1}{2}$ dis	1 $\frac{1}{2}$ — 1 $\frac{1}{2}$ dis
	Ceylon	5s.	.. ..	.. ..	.. ..	.. ..
	Demerara	2 $\frac{1}{2}$	dis — par	dis — par	dis — par	dis — par
50	Dendre Valley	4	2 — 1 $\frac{1}{2}$ dis	2 — 1 $\frac{1}{2}$ dis	2 — 1 $\frac{1}{2}$ dis	2 — 1 $\frac{1}{2}$ dis
50	Direct Bombay and Madras	5s.	.. ..	.. ..	.. ..	.. ..
20	Dutch Rhenish	6	1 $\frac{1}{2}$ — 1 $\frac{1}{2}$ dis	1 $\frac{1}{2}$ — 1 $\frac{1}{2}$ dis	1 — 1 $\frac{1}{2}$ dis	1 — 1 $\frac{1}{2}$ dis
	East Indian	5s.	.. ..	.. ..	.. ..	.. ..
	Great Indian Peninsula	5s.	.. ..	.. ..	.. ..	.. ..
50	Great Southern of Madras	5s.	.. ..	.. ..	.. ..	.. ..
	Great Western Bengal	5s.	.. ..	.. ..	.. ..	.. ..
22 $\frac{1}{2}$	Great Western Canada	3 $\frac{1}{2}$	.. ..	.. ..	.. ..	.. ..
	Italian and Austrian	3	.. ..	.. ..	.. ..	.. ..
20	Jamaica South Midland Junc.	1	dis — par	dis — par	dis — par	dis — par
	Jersey	1	dis — par	dis — par	dis — par	dis — par
	Louvain & la Sambre	6	4 $\frac{1}{2}$ — 4 $\frac{1}{2}$ dis	4 $\frac{1}{2}$ — 4 $\frac{1}{2}$ dis	4 $\frac{1}{2}$ — 4 $\frac{1}{2}$ dis	4 $\frac{1}{2}$ — 4 $\frac{1}{2}$ dis
	Lyons and Avignon	2	.. ..	.. ..	.. ..	.. ..
20	Luxembourg	4	2 $\frac{1}{2}$ — 2 $\frac{1}{2}$ dis	3 — 2 $\frac{1}{2}$ dis	2 $\frac{1}{2}$ — 2 $\frac{1}{2}$ dis	2 $\frac{1}{2}$ — 2 $\frac{1}{2}$ dis
	Madras, Nellore, and Arcot	0 $\frac{1}{2}$	.. ..	.. ..	.. ..	.. ..
20	Namar and Liege	8	4 $\frac{1}{2}$ — 4 $\frac{1}{2}$ dis	4 $\frac{1}{2}$ — 4 $\frac{1}{2}$ pm	4 $\frac{1}{2}$ — 4 $\frac{1}{2}$ pm	4 $\frac{1}{2}$ — 4 $\frac{1}{2}$ pm
20	Northern of France (constitd.)	5	8 $\frac{1}{2}$ — 9 pm	8 — 8 $\frac{1}{2}$ pm	7 $\frac{1}{2}$ — 7 $\frac{1}{2}$ pm	6 $\frac{1}{2}$ — 7 pm
20	Orleans and Vierzon	10	4 $\frac{1}{2}$ — 4 $\frac{1}{2}$ pm	4 — 4 $\frac{1}{2}$ pm	3 $\frac{1}{2}$ — 4 $\frac{1}{2}$ pm	2 $\frac{1}{2}$ — 3 pm
20	Orleans and Bordeaux	6	2 — 2 $\frac{1}{2}$ pm	2 — 2 $\frac{1}{2}$ pm	1 $\frac{1}{2}$ — 2 pm	1 $\frac{1}{2}$ — 1 $\frac{1}{2}$ pm
20.16.8	Over-Yssel	4.3.4	3 — 2 $\frac{1}{2}$ dis	3 — 2 $\frac{1}{2}$ dis	3 — 2 $\frac{1}{2}$ dis	3 — 2 $\frac{1}{2}$ di
	Paris and Lyons (constituted)	5	4 — 1 pm	4 — pm	4 — pm	4 — pm
20	Paris and Orleans	20	48 — 40	48 — 40	47 $\frac{1}{2}$ — 48 $\frac{1}{2}$	47 $\frac{1}{2}$ — 48 $\frac{1}{2}$
20	Paris and Rouen	30	37 — 38	30 $\frac{1}{2}$ — 37 $\frac{1}{2}$	36 — 37	35 — 36
	Paris and Strasbourg (const.)	5	dis — par	dis — par	dis — par	dis — par
20	Rouen and Havre	20	7 $\frac{1}{2}$ — 28 $\frac{1}{2}$	27 — 28	26 $\frac{1}{2}$ — 27 $\frac{1}{2}$	26 — 27
20	Sambre and Meuse	8	5 — 4 $\frac{1}{2}$ dis	5 — 4 $\frac{1}{2}$ dis	5 $\frac{1}{2}$ — 4 $\frac{1}{2}$ dis	5 $\frac{1}{2}$ — 4 $\frac{1}{2}$ dis
14	Strasbourg and Bale	14	8 — 9	8 — 9	8 — 9	8 — 9
	Tours & Nantes (constituted)	5	dis — pm	dis — pm	dis — pm	dis — par
20	West Flanders	6	3 $\frac{1}{2}$ — 1 $\frac{1}{2}$ dis	3 $\frac{1}{2}$ — 2 $\frac{1}{2}$ dis	3 $\frac{1}{2}$ — 2 $\frac{1}{2}$ dis	3 $\frac{1}{2}$ — 2 $\frac{1}{2}$ dis

FOREIGN RAILWAY INVESTMENT.—DUTCH RHENISH RAILWAY.

By HYDE CLARKE, Esq.

The extension of our own railways has led to large investment in those of the continent—an investment, as to the propriety of which many economists entertain great doubts, not on the ground of patriotism, but on that of prudence. This is a subject which merits inquiry on account of these doubts, and on account of the extent to which English interests are involved in it.

On the question of capital there are two opinions, that of Dr. Chalmers, Mr. Wakefield, and their followers, who believe that there is too much capital in the country, and that of the world at large, who think there is not enough. The former, on their own reasoning, must be satisfied if any field can be found for the employment of capital out of the country, and, therefore, we need not deal with them. The others view, however, with jealousy anything calculated to diminish our home capital, and particularly any operation which may interfere with our floating capital and our money.

If any one were to undertake the office of pledged advocates of foreign enterprise, which it will be hereafter seen we are not, it would not be necessary to defend foreign enterprise in the abstract. At all events, it will be much more practical to investigate each case on its own merits. We can begin with that of France.

For a long while we have been large holders in French government securities, partly caused by the compensation made by France to English citizens at the time of the restoration, and partly by the desire of profiting by the high rate of interest. The low prices of French Fives have been particularly attractive to individuals, with whom it was an object to increase their incomes; and after the revolution of July, 1830, when the new government became consolidated, the English took advantage of the depressed state of the Paris Bourse. With the restoration of confidence, prices have risen so much above par, that they have offered a temptation to sell out for the profit, no less than from the fear of reduction.

Whatever confidence individuals in France may place in the power and disposition of the king, to prevent a reduction from 5 to 4 per cent., the measure is otherwise so easy and so beneficial to the country, that an Englishman is justified in expecting such a contingency. The present price of 117 is maintained solely by French investors, and an Englishman does not readily see his way to be compensated, either in principal or income, for the loss of 17 at one fell swoop. It is true that a premium would, in all probability, be given, and the new fours would also be above par, but the probable loss to an investor at 117 is still considerable. As, moreover, the English bought in chiefly under par, at prices varying from 70 to 95, the prices since 1833 have offered a very large profit, in many cases more than 50 per cent., and this has been a profit realised out of the French, and of itself constituting a very large capital. If we were to estimate that the English have only sold out £5,000,000 sterling of French Fives, this would give a profit of about £2,000,000, remaining on the continent as a new capital, available for other operations.

When the Paris and Rouen Railway Company was formed, the capital was taken chiefly by the English, and it was observed, that this extensive operation produced no durable impression on the exchanges, which gives a very strong indication of the true nature of the process, as it is to be remembered that the French are but small consumers of our manufactured produce.

The Paris and Rouen, and other English enterprises, having proved successful, and the shares in them having thereby acquired a fixed value, have been readily taken by the French at double the original price, again realising for us further capital.

Thus we were amply supplied with funds to carry on our last year's operations in Great Northern and other shares, which it is notorious were sold by us to the French at a premium, leaving but little in our hands.

Upon the whole of the French transactions since the restoration, we have been large gainers, and accumulated a large capital, disposable for our enterprises in France, although we have laboured under the disadvantage of having an enormous English population settled in that country. The result, therefore, is, that we have been able to quarter this colony in France, and yet increase our capital. This has been effected by our more advanced intelligence in the operations of capital, and yet, so far from France having suffered thereby, she has greatly gained, and is richer than she would have been, if the English held no capital on her soil; for, whereas, her own people would never have had the enterprise to carry out those great undertakings of railways, and increase the national resources, the English have given an impulse to private enterprise in France, which for the future will be self-sufficient.

The Paris Bourse has been a great help in the whole transactions, and France has been enabled to carry out successfully those great financial operations connected with an extensive system of railways, and without which progress, under the most favourable circumstances, must be slow. The "transfer of capital" has been promoted and adjusted, and the re-distribution of national income effected. Thus the land-owner, who received the price of his land, and who could not re-invest it in land, purchased, perhaps, the *rentes* of the Englishman, who received railway shares in return, and in a similar manner the other processes were facilitated.

Our small stake in Tuscan railways admits of simple explanation, and need not now detain us.

Railway operations in Belgium do not, however, allow of an easy solution. Our investments in the Belgian stocks have not yet yielded us any large profit, and we have no other disposable funds in that country; for though we have been the masters of the Flemish manufacturers, we are not their partners. The Belgians, moreover, are not large consumers of our goods; they do not want our iron, our coals, our cotton, or our woollens. We do not supply them indirectly with any great quantity of Brazilian or tropical produce. Whatever English capital is invested in Belgian railways will have to be sent out from this country in solid cash. This is one difficulty, but a greater remains behind. The Belgians have no money market, and there are no facilities for their taking our shares off our hands. Whereas, French railway shares have the benefit of an English market and a French

market, and foreigners residing in the two countries are induced to invest in marketable securities; Belgian railway shares are only current here. The banking establishments in Belgium are also on a restricted scale, and the people are so timid and so wanting in enterprise, that they look with favour on no investment, but that in land, for which they eagerly compete in extravagant prices. The quantity of floating capital required to carry on railways in Belgium, is very large in proportion. It is slow in adjusting itself, and it does not come back to the railways, either in the shape of "transfer of capital," or "investment of capital." We do not, of course, forget that there are Belgian holders, but we do not think it worth while to take them into consideration.

Some capital has been furnished by those of our capitalists, who have profited by French enterprise, and therefore the drain is not exclusively on this country, but is partly supplied by drafts on our resources on the continent, which is to be regretted, as our capital in France is held under most favourable circumstances.

A review of these observations, even if they should not be admitted to the full, will, nevertheless, go some way towards an explanation of the depressed state of the English market for Belgian shares—a depression which naturally re-acts to prevent other capital from sustaining it, and prevents the weak holders from being supplied by men of substance.

In the whole range of railway enterprise, there are few lines of greater probable profit than those of Belgium, and yet at the present moment the shares are either unmarketable, or at a fearful depression.

The remedy appears to us to be simple—a united application from the companies to the Belgian government, praying the restoration of the ancient money market at Antwerp, and the extension of the Bourse at Brussels. If Belgium hopes successfully to compete with the Netherlands in the transit trade, railways alone will not be sufficient. The resources of a large money market, and of a low rate of interest, are wanted to contend with Amsterdam.

By the evidence of facts, it has been shown how foreign railway investment can be favourably carried on; and we believe there are few economists who will say that our enterprises in France are either illegitimate or unprofitable. Our own country has not been cramped, and if we have gained a farthing, we have gained and realised at least £5,000,000 sterling, besides realising our original capital.

It is, indeed, the exact counterpart of the money operations carried on in this country by the Hollanders in the reigns of Oliver Cromwell and Charles the Second, and so well described by Sir Josiah Child. At that time they had a large capital placed here, on which they realised 6 per cent., at the common interest of those days, and sometimes a higher rate on exchequer tallies and other government securities. While Amsterdam was the great money market of the world, as London is now, these operations in foreign markets constituted one of its chief sources of strength and profit; for in a very short time the accumulation of interest supplied the place of the original capital. In the remaining part of this article it will be our business to consider whether we can, in our turn, apply this operation to the market of Amsterdam. The principles we have already developed will enable us safely to determine the propriety of any foreign railway investment,

whether in Spain, or whether in the Netherlands. Our success in France, and our difficulties in Flanders, are equally useful in pointing out to us the essentials of a safe and satisfactory operation.

At the present moment we need not inquire whether railways in the Netherlands would be productive or not; that is matter for after determination. We have only to see what facilities for investment we have among our kinsmen there. We treat it as a mere matter of the circulation of capital, and we leave out the safety of the investment.

When we consider what resources we have already in that country, the evidence of our own Stock Exchange informs us how largely we are holders in the two-and-a-halves, fours, and other Netherland securities, for which there is a large market even in this country, which is not the case either with French *rentes* or Belgian funds.

The Hollanders, also, are not merely in our near neighbourhood, but wanting many of our productions, and, being always in close correspondence with us in all ages, on account of the sympathy of race, being nearer akin to the English than the Scotch Highlanders, the Welsh, or the Irish, they have the same habits and the same wants. While they supply us with cattle, cheese, butter, fruits, and vegetables, they take from us large quantities of coal, iron, and manufactured goods, the house of a Hollander being more English in its fittings than the house of one of our colonists in the West Indies or Australia. We have therefore every facility, besides our holding in the Netherland funds, for sending our own produce as a remittance instead of money—an advantage we have not either in France or Flanders.

At Amsterdam is still one of the greatest money markets in the world for stocks and bills, and we have the benefit of such an engine for carrying out our railway operations. "The transfer of capital" will be facilitated in the adjustment of the purchase of land, &c., and the investment of the profits of contractors and tradesmen. The money that is to be raised on loan can also be obtained in the Amsterdam market, at easy rates, and the remaining capital can be supplied from this country in the shape of rails and locomotives.

In the operations for the Netherland railways we shall not be called upon to remit any money from this country, and the whole can be carried out by the remittance of materials, and the transfer of some of our "specklebacks;" in return for which we shall be the holders of the railway stock, and of the profit income thence accruing.

When, by our experience and intelligence in railway matters, we shall have brought our railways in Holland into a productive state, we shall have even to a greater extent than we have in France, and what we have not in Belgium—a good market to get rid of our securities.

Although the Amsterdam market is at present depressed, it is a particularly good market, and any shares which could be brought up to 10 per cent. would fetch 240. At present the Hollanders are slow in railway matters, which is our advantage, for they do not understand them, and we shall have full scope for our exertions, while at the time when we shall most want it, they will have been familiarized with the value of railway shares, and will be able to take off, at a greatly enhanced price, the valuable property we shall have created.

The Dutch Rhenish Railway is the principal Netherlands Company before the English public, and although we have given a partial con-

sideration to it on previous occasions,* yet the interest which has been excited with regard to it, requires at our hands a closer investigation into its claims; the more particularly as the whole subject is seriously misunderstood, and has been much misrepresented.

There is, as is known, a railway in Holland, running by Haarlem, but the Netherland government, being desirous of forwarding railway enterprise, took the injudicious step of beginning railway construction on their own account. The rivalry of Belgium and the exertions of the Flemings to secure the transit trade by the Rhine, forced on the Netherland government the necessity of using every means to secure the traffic through Holland. While the object was laudable, the means adopted were injudicious, and particularly at a period when the government were suffering from serious financial embarrassments, and it was not till late that they took the step which they ought at first to have adopted, of leaving the matter to private enterprise. Impatient to do something, the government undertook the formation of a railway from the sea ports to the Prussian frontier.

The government accordingly raised a loan at the high rate of 4½ per cent., with a participation in the profits, and carried out the construction of a line from Amsterdam to Arnheim, and though the Netherlands government is certainly not one deficient in enlightenment, they exhibited neither the vigour nor the efficiency of private enterprise, so that when they at length turned it over to a joint-stock company, they left the new directors ample opportunity to acquire reputation by the improvements and new arrangements effected. Nothing to our minds shows so completely the inaptitude of governments to manage railway affairs than the history of the Dutch Rhenish Railway—an undertaking which was the most favourable that could possibly be chosen for a trial in railway management.

The end was the very prudent measure of the concession of the 20th May, 1845, and we shall, therefore, treat the subject, irrespective of the government interest and participation in it.

Those who know anything of Holland are aware of its wealth, and that it is still one of the richest and best peopled countries in the world. It is known also that one of the mainsprings of its wealth is the transit trade with the High Dutch, sending up the great artery of the Rhine, the colonial and maritime produce consumed by many millions of people. This trade is carried on partly at Amsterdam, but chiefly at Rotterdam, from which towns a stream of traffic is constantly flowing to the upper country. To accommodate this traffic the Dutch Rhenish Railway is chiefly designed, and it necessarily proposes a double communication from Amsterdam and Rotterdam, to the upper Rhine, independently of accommodating a vast local traffic, and affording facilities for many new branches of business.

We shall first apply ourselves to the Rhenish trade. Amsterdam and Rotterdam are the chief ports for the warehousing of colonial produce from Java and the Netherlands possessions, and here are the chief stocks of coffee and sugar. The coffee market in particular is larger than that of London, comparatively little coffee being consumed in England, tea having the preference; while among the High and Low Dutch coffee is the chief beverage. Sugar is refined in the Nether-

* *Railway Register*, vol. ii., p. 134; vol. iii. p. 356.

lands ports, and then sent up the country. Tea is also warehoused, but spices have long been a great branch of Netherlands trade. Cotton is also imported, and all the raw materials of manufacture, wool, silk, flax, hemp, hides, dye woods, &c. English yarns are introduced largely into consumption. The Netherlands have long cultivated the Baltic trade, and hence a great market is formed for timber, ashes, and for Baltic productions, as tallow, bristles, &c. Timber is also received down the Rhine in vast floats, and great quantities are sawn and converted at Zaandam and other towns in Holland. Salt is another article of large consumption which passes through Holland. It is also to be observed, that the chief route for the great English trade to the Rhenish countries is through Holland, and by the same way we receive large supplies of produce. English yarns is sent to Elberfeld to take the red dye, and thence comes back to this country.

Holland is the greatest market for corn in the world, and its capital has for the last 300 years, at least, been devoted to this business, the extent of which Raleigh admired, and every traveller since has celebrated. In the granaries of Holland are stored the surplus produce of the countries on the North Sea and the Baltic, ready to be distributed to all parts of northern Europe which require supplies.

The transit and entrepôt trade are favoured by the regulations of the Netherlands government, and by the formation of large docks and warehouses, in which produce can be stored on the cheapest terms. At Amsterdam the branch of the Dutch Rhenish Railway runs up to the Entrepôt Dock, the establishment where the grand range of bonded warehouses is placed.

Amsterdam and Rotterdam are well qualified to act as centres of distribution for a vast trade, having not only good public establishments, but a well-supplied money market, intelligent merchants, good mechanics, and suitable machinery and craft. Each of these towns will receive the largest sea-going ships, and has good communications with the interior. Rotterdam is placed on a great arm of the Rhine.

Along the course of the Rhine by Arnheim and Cologne, this stream of traffic pursues its course; but, for a long time in winter, the Rhine is frozen and impassable for navigation, so that goods destined for Cologne are often detained four months, and sometimes from November till April, to the serious injury of the merchant, who often loses his market, is sure to lose the interest of his money, and is kept out of his returns. At the present moment too, he is exposed under such circumstances to the rivalry of the Antwerp shipper, who brings his goods along the Belgian Railway to Cologne. To enable the Amsterdam or Rotterdam merchant to carry on his operations during the winter months, is a great benefit, and will be sensibly felt in many important branches of trade. For instance, the corn trade is one subject to much fluctuation, when it is imperative to go into the market on a sudden to realise the best price. This particularly happens in winter, so that the Amsterdam merchant is cut off from the inland markets, whereas, when the Dutch Rhenish Railway is complete, he will, before the next market day after the arrival of the news, take his corn from the entrepôt, put it at once on the railway trucks, and within twenty-four hours a large supply can be delivered five hundred miles up the country. In trading operations, moreover, the benefit will be particularly felt of a quick com-

munication with Cologne, one of the great centres of distribution on the Rhine, and with the other markets, whence orders can be transmitted to Amsterdam or Rotterdam at the prices of the day, and be at once executed. At all times quick communications are of advantage in trade, but during the winter months, unless the Dutch Rhenish Railway were organised, the Amsterdam merchant would be at the mercy of his Belgian rival.

By the Netherlanders, this undertaking has been named "the lever of the trade of the country," and justly so, for nothing is better calculated to uphold and extend the wealth and resources of Holland, while, what is not less essential for our consideration is, that the working of a large through traffic presents a fertile source of revenue for the shareholders concerned in the Company.

The Dutch Rhenish Railway consists of two fork lines, running respectively from Amsterdam to Rotterdam, and uniting at Utrecht, whence they proceed, as a trunk line, to Arnheim, on the Rhine, and near the Prussian frontier, at which it will form a junction with the Prussian railway system. The length of the Amsterdam branch is twenty-three miles, of the Rotterdam branch, thirty-two and a half miles, and of the junction, from Utrecht to Arnheim, thirty-five miles and a half, and from Arnheim to the frontier, twelve miles.

Of this, the whole length from Amsterdam to Arnheim, fifty-seven and a half miles in length, is now open or traffic. The total length of the line is to be one hundred and three miles, including the several branches.

The openings have taken place as follows:—

Amsterdam to Utrecht,	21 $\frac{3}{4}$ miles -	28th December, 1843.
Utrecht to Driebergen,	7 $\frac{1}{2}$ „ -	17th July, 1844.
Driebergen to Veenendaal,	13 $\frac{1}{2}$ „ -	15th March, 1845.
Veenendaal to Arnheim,	14 $\frac{1}{4}$ „ -	16th May, 1845.

The portion of the railway from Amsterdam to Arnheim already opened has been executed by the government. The engineer is Mr. Van der Kun, a gentleman of great talent and practical ability, who has well performed his task. The country is flat, like the Hull and Burlington, and Nottingham and Lincoln Railways, and there is nothing like what is called an engineering difficulty, so that the line is cheap, and far below the average cost. The earth works are made for a double line, but the government laid down only a single set of rails; and one of the first determinations of the directors was, consequently, to commence laying it throughout, and this has been partially effected.

The gage is the broad gage, of 6 feet 6 inches, which was adopted, as it would have been adopted by every prudent engineer, who had to lay down a system in a new country; for whatever objections may be raised in England as to break of gage, all independent parties have acknowledged their preference for a wide gage, which, indeed, as to speed, safety, and comfort, maintains a decided superiority. As the Prussian gage is the narrow gage, it has been proposed to reduce the gage of the Dutch Rhenish; but being opposed by the government, such a measure has not been adopted. It is, consequently, to be expected that the Dutch Rhenish Railway will realise all the advantages of the best constructed lines.

Mr. Locke, at the request of the English directors, has inspected the line most minutely, and it is a gratification to learn that he could not find a single fault. He expresses himself most frankly in favour of the line, and states that the works are good and substantially done, and the stations well and conveniently laid out.

By the exertions of the directors, the communication by water with the chief station at Amsterdam has been improved, and additional warehouses and wharfs are being erected on a site leased from the corporation. Thus, goods will, without the expense of cartage, be at once placed on the railway trucks, and carried on to the line. The same advantages attended the extension to the entrepôt dock. Instead of the original government line, a shorter one has been obtained over corporation land, effecting a saving in money of £33,000, besides a great saving in time. Here, also, the goods will be taken out of the bonding warehouses, and be placed on the railway, so as to avoid shifting or transhipment. For a goods' traffic, the importance of these measures cannot be exaggerated. Here they will be well appreciated, from a knowledge of the exertions made by the Liverpool and Manchester, London and Birmingham, South Western, and other lines, to extend their connection with the lines of water communication.

By a junction with the Netherlands Railway at Amsterdam, a communication can be formed with Haarlem, and the traffic of North Holland will thus be placed on the direct route to the Rhine.

From Amsterdam the line proceeds to Utrecht, along a populous country, and in the neighbourhood of many towns, with which, ultimately, railway communication will, no doubt, be formed. The short traffic in the neighbourhood of a town like Amsterdam, with a population of 200,000, must of course be great. Amsterdam is the great market of the country, and the virtual capital.

Utrecht is a provincial capital, with 60,000 people, situated on good water communication, with a large local traffic in the centre of the province, which will be traversed in three directions by the Dutch Rhenish Railway. Here the Rotterdam line also falls in, and at some not distant time will be the point of junction of a branch to Leyden, the Hague, and Scheveling, which would most probably strike off at Woerden.

The local passenger traffic between Utrecht and Amsterdam may very fairly be reckoned at £30,000 a year—no inconsiderable sum. The other local traffic on the line is about £10,000 a year, so that, when the Rotterdam line is opened, a local traffic between Utrecht and Rotterdam, of £20,000 a year, may very fairly be expected. Utrecht is in a most favourable position for traffic, as it only lies about twenty miles from Amsterdam, and thirty-four from Rotterdam, and three populous towns are thus united.

The Rotterdam line is one of the most lucrative portions of the undertaking. The directors have succeeded in making an improvement in the government plan. In obtaining a modification of the route, tedious negotiations were undertaken, which have, however, ended in a satisfactory result. The original government line was by Utrecht, de Meern, Linschoten, Oudewater, and Gouda to Rotterdam; but the Company have succeeded in obtaining a line higher up the Amsterdam branch, which passes by Woerden and Gouda, to Rotterdam. The result is to obtain an alternative through line between Amsterdam and Rotterdam, which can successfully compete with the route by Haarlem,

Leyden, and the Hague, as it is only about the same length, and has better stations in Amsterdam and Rotterdam.

Rotterdam has a population of about 100,000, and admirable local advantages by its communication with the sea and the Rhine, and by having deep water canals running up to the merchants' wharfs in every part of the city. The railway station at Rotterdam has been, by the exertions of the directors, placed on the banks of the Maes at the back of the Haringvliet, in a situation most convenient for the mercantile interests, so that vessels of large burthen can come alongside the companies' wharf, and place their cargoes on the railway.

By the exertions of the Eastern Counties Railway, and the Harwich Steam-boat Company, the old route between Harwich and Rotterdam will be restored, but Rotterdam already possesses the advantage of being one of the chief steam-ports in the world, having communication with St. Petersburg, Copenhagen, Hull, London, and Havre, besides a local communication with Antwerp and the towns on the Maes, Rhine, and Scheldt. The Dutch Rhenish Railway Company will therefore afford the facility of conveying passengers from the steam-boat wharf, to most parts of Holland and to the upper Rhine.

In the neighbourhood of Rotterdam are Schiedam, Vlaardingen, and many busy towns; and by the Netherlands Railway there is a connection with Delft and the Hague, and the bathing-place of Schevelingen, which will place those towns on the through line to Utrecht, Arnheim, and all the places in East Holland, Prussia, and the countries on the Rhine.

Gouda on the Rotterdam branch is a place of some trade, and there is also the town of Woerden, from which, as we have said, a branch of less than twenty miles would give Leyden and the Hague a better communication with the up country. In our opinion the Netherlands Railway, must some day fall into the hands of the Dutch Rhenish Company, on fair but easy terms, and a Woerden and Hague branch being made, the most productive lines in the heart of Holland would be amalgamated in the possession of the latter Company.

Returning to Utrecht, we find the junction line proceeding by Driebergen and Veenendaal to Arnheim. In the immediate neighbourhood are the towns of Leusden, Amersfoort, and Amerongen. The line itself, however, it is to be observed, avoids the valley of the Rhine, and passes through the barren heaths of Gelderland, having the fertile and populous district in close vicinity. On this part of the line, the country will beneficially admit of railway improvement by the introduction of lime, loam, ashes, and fertilising manures; while access being afforded to the higher and more healthy parts of Holland, the wealthy residents in Amsterdam, Rotterdam, Utrecht, the Hague, Leyden, Haarlem, Delft, Gouda, &c., will be tempted to form rural seats, where they will be enabled to place their families in a healthy situation, and yet be within an hour or an hour and a-half's journey of their place of business. The Dutch Rhenish Railway being on the broad gage, the whole line could in fact be traversed by an express train in one hour.

Arnheim is the place where the Overysseel Railway* will join,

* For a map and account of the Overysseel Railway, see *Railway Register*. vol. ii, p. 134.

bringing in the traffic from North and East Holland. Here also is a place of distribution for the goods' traffic of the Rhine.

From Arnheim the line is continued to the Prussian frontier. The junction of the Dutch Rhenish Railway with the Prussian Railway had to be determined by diplomatic arrangements between the two governments, a mode far from being favourable to dispatch, and which gave considerable anxiety to the directors. This was ultimately arranged this year, and the point of junction fixed near the road from Didam to Elten, so that the Company are at length in a position to execute the works throughout. As, however, the Berlin money market is seriously depressed, there is not the least certainty that the Prussian line by Emmerich and Wesel to Doesburg will be immediately prosecuted; until that be done, the full results of the Dutch Rhenish Railway traffic cannot be realised, as goods will be exposed to a transshipment at Arnheim, instead of being carried throughout. In undertakings of this complicated description, delays of this kind cannot however be avoided, and must naturally be expected.

Having described the course and character of the line, we now think it necessary to state the manner in which it came before the English public, and more particularly as this transaction has been made the subject of much jealousy and misconstruction. The Netherlands government having undertaken the construction of the works themselves, soon found that they had engaged in an enterprise for which they were totally unfitted; and, as they were sincerely desirous of the good of the country, and not like the French and Belgian governments and the Board of Trade at home, catering for patronage and the extension of the bureaucracy, they at once determined on yielding it to private hands. The loan by which the works were constructed, imposed an interest of $4\frac{1}{2}$ per cent., and as no undeveloped railway ever yet realised such a profit, there was a prospect of a deficiency for some time, while the further the government proceeded in the prosecution of the works, the greater the deficit became. At the same time they were loaning the government security for a collateral purpose, when, from financial embarrassments, they required it for their own use. In the state of the Netherlands finances, they were by no means justified in carrying on an enterprise of this kind, however lucrative it might prove in the end; and they embarrassed themselves by promising to the bondholders, not only the $4\frac{1}{2}$ per cent. interest, but a participation in the profits. In joint-stock companies, shareholders can afford to wait for a return, until the traffic is sufficiently developed; and where interest is paid on calls, it is well known it comes out of the pockets of the shareholders. Bondholders must have an immediate return, while the works are going on, and while the traffic is being developed. Thus, although the section opened gradually to Arnheim, has paid better than any established line in England under the same circumstances, there is an annual deficiency on the government loan.

Some of the mercantile houses in Holland, connected with the London market, stepped in under these circumstances, and obtained a free concession for fifty-three years, and then, if resumed by the government, to be repaid the cost price; the concessionaries taking the whole responsibilities of the government, and contracting to finish the line. These great houses, thereupon established a company, and divided the

shares among themselves, some of which afterwards, as a matter of course, came into the market, and were sold at a premium ranging from £4 to £6. The transaction was so good a one, and the merits of the undertaking were so clear, that the demand for the shares was great, and no doubt some of the original parties must have realised a considerable sum, which in some quarters excited envy, and envy is but a step on the road to malice.

The panic gave a fair scope for the display of bad feeling on the part of the ill-disposed; for, as a matter of course, the Dutch Rhenish shares from a premium went down to a discount. Had they remained at a premium, with a depressed market, an undeveloped line, and no dividend, it would have been an extraordinary fate, and such has never attended even the most promising English line under such circumstances. The discount has been turned to account, like everything else, and it has been represented that the transaction with the government is a ruinous one, the line expensive and unproductive, and the whole concern a bubble and a delusion, in which the directors have participated. As to the value of the line, that cannot be determined, either by a premium or a discount in the market. Under either circumstance, the intrinsic value will be the same; but we do not think any impartial capitalist will arrive at an unfavourable conclusion, after perusing the information which we have laid before him, and exercising his own judgment upon it.

As to the part of the concessionaries in the Dutch Rhenish Railway, it has been a simple one, they have made a good bargain, and they have a right to reap the fruits of it. It has been sedulously intimated that they have done something unjustifiable in appropriating the shares to themselves, but we do not see to whom else they ought to have allotted them. They purchased the line for themselves, they took the responsibility, and if other parties wanted to come in they would have to pay for it. This was no case of a company formed, for which an act had to be obtained, but of a company, where a considerable part of the line was made, and the public in England had no more right to the profits on the transaction, than they had to require the York and North Midland Railway shareholders, to give up the advantages of the Hull and Selby, or Leeds and Selby purchase.

No man of honour or honesty, could raise a doubt on the transaction; but on the part of ignorant and ill-disposed persons, the directors and concessionaries of the Dutch Rhenish Railway, have been held up to odium, in the disposition of their own property. One railway journal was exposed to great ridicule, for having with less discretion than ill-will, published what it supposed to be extraordinary revelations and disclosures of the mode in which the shares of the Dutch Rhenish Railway had been monopolised by the directors. This pretended revelation was, however, a hoax on the editors; for it is neither more nor less than a transcript of a part of the statutes of the company, a document printed and distributed among all the shareholders, and a copy of which we have now before us. The correspondent thinking he had procured information of value, and which the directors had an interest should not be known to the shareholders, must in the end have been disagreeably undeceived.

That the concession has come into English hands is not a surprising

thing, for we have managed to secure the concession of every line worth having in France, Belgium, Italy, and the Netherlands. The people of Amsterdam must have been more enterprising than the capitalists of Paris and Brussels, if they, without any adequate experience, were able to appreciate the benefits of railway investment, and were willing to embark their funds in a business they knew nothing about. There are people in this country who think it an illegitimate course to invest money in a railway, and it has taken a long time to train a body of railway capitalists here, from which a sufficient inference may be drawn as to the capabilities of Holland for undertaking a company requiring an expenditure of £2,000,000. It would not be such a good thing for the English if the Netherlanders were better trained, as in time they will be, for thereby we should lose the pick of the market. What the monied class in Holland will do ultimately is to buy the Dutch Rhenish shares at cent. per cent. premium, as the French bought the Paris and Rouen. Already they have bought at a premium the shares of the Netherlands Railway, only partially developed, and it will not be considered extraordinary by those who understand such things, that they did not buy Netherlands Railway shares at a discount, but at a premium, and they are not likely to buy Dutch Rhenish shares at a discount. Slow and steady people wait till they see a good dividend obtained, and then they do not object to pay a high price for it.

In the sketch which we have already given of the line, we have in some degree shown the resources of the Dutch Rhenish Railway, but we think it desirable to consider them more extensively, as this is one of the chief points on which the shareholders desire information, the actual working of the fraction of the line opened having been made use of for misrepresenting its capabilities.

The line now opened is only from Amsterdam to Arnheim, with limited facilities for goods' traffic, and yet, in the first year, the local passenger traffic gave a net return of 3½ per cent., although the working expenses were as high as 46 per cent., arising from the infancy of the undertaking, and a staff being kept up sufficient for the whole working. Any railway man of adequate experience can judge of the highly favourable character of these results, but we cannot refrain from publishing Mr. Chaplin's comparison of the working of several lines for similar periods, namely, six months from their opening on a considerable distance.

This, which is also given at p. 358 of our third volume, gives the date of opening, length of line, number of passengers, and number of passengers per mile.

	Date.	Length.	Passengers.	Passengers per mile.
Grand Junction - -	1837	96	233,520	2,432
London and Birmingham	1839	94	301,552	3,208
Paris and Rouen - -	1837	84	348,976	4,150
South Western - -	1837	58	281,706	4,857
Dutch Rhenish - -	1845	58	279,966	4,827

The fare on the Dutch Rhenish line is nearly as high as in England, and higher than on the Paris and Rouen Railway; the line can be worked as cheaply as either, and the cost of construction will be £19,000

on the Dutch Rhenish per mile, against £28,000 on the South Western, and £45,000 on some of the other lines. On the Dutch Rhenish there is, moreover, an exemption from heavy taxation. This is a strong contrast to poor-rates, passenger tax, and income tax, which are such great burthens here.

Of course, until the line be opened throughout, a large return cannot be expected; but, from a small and inconsiderable portion, the value of the whole line can be favourably ascertained.

The local passenger traffic from Amsterdam to Utrecht and Arnheim is at present limited, but this admits of extension, by bringing passengers from Haarlem.

The local passenger traffic between Rotterdam, Delfshaven, Scheidam, Vlaardingen, Delf, the Hague, Schevelingen, Gouda, Woerden, &c., and Utrecht and Arnheim, will be obtained on the opening of the Rotterdam line.

By the opening of the Rotterdam branch a complete line will be formed between Rotterdam and Amsterdam, which must carry a considerable part of the through traffic between those places, and also the through traffic from Doet, Gorchem, Gouda, and Woerden, which cannot be carried by the Hague route.

The distribution of the steam boat passengers from Rotterdam, through Mid Holland, East Holland, Prussia, and the Rhenish countries will be carried along the Rotterdam branch.

A new traffic will be created between the large towns in the low districts, and the healthy uplands, in the mode we have already described.

Visitors will be brought from the upper country to Schevelingen, and the bathing places on the coast.

The line includes in its local traffic the Hague, the seat of the legislature; Amsterdam, the capital of North Holland, and the commercial centre; Rotterdam, Utrecht, and Arnheim, provincial capitals; and the towns of Haarlem, Delft, Schiedam, Gouda, Woerden, Amerongen, &c.

The whole traffic of Leuwarden, Groningen, Delfzyl, Kampen, Zwolle, Almelo, Deventer, Zutphen and East Holland, the provinces of Groningen, Friesland, Drenthe, Overysse and Gelderland, with the west of Holland, will pass over the Dutch Rhenish Railway, and the Rotterdam portion of this traffic can never be diverted from the railway.

The route by Rotterdam is the shortest, quickest, and cheapest, to the Rhine, to Prussia, and Hanover. A connection is obtained with the railway systems of Prussia, Hanover, and the Lower Rhine, and a direct line will carry passengers from Rotterdam to Berlin, Hanover, Leipsic, Dresden, Brunswick, Gottingen, Frankfort-on-the-Oder, Magdeburg, &c. By the continuation of the Dutch Rhenish Railway through Emmerich and Wesel, a through line is formed, not only to Dusseldorf and Cologne, but to the whole valley of the Rhine, as well as to Cassel and the Saxon Duchies. This is also a direct railway route to Bavaria and Vienna, and forms an alternative route for the East India overland traffic by Trieste. It must be recollected that the Rhine is an accustomed route, the traffic is established upon it, that the Rotterdam is the natural outlet, and a railway has only to be laid down to secure a large revenue.

The only competitors are Antwerp and Ostend, neither of which has the advantages of Rotterdam, either as to accommodation or natural situation, but yet the Belgians get £50,000 per annum from this traffic.

This enumeration, we should think, will satisfy every one, that for local and through traffic the Dutch Rhenish Railway will have few rivals, when the whole system is developed; but it is not only a passenger line, but one of the greatest goods lines in the world. Rotterdam and Amsterdam are already the chief ports of entry, deposit, and distribution on the southern shores of the North Sea, and neither Hamburg nor Antwerp can compete with them. The transit trade must therefore follow the Dutch Rhenish Railway, and this alone is enough to constitute an enormous traffic. Up the Rhine, the Netherlands ports send coffee, sugar, spices, tea, tobacco, cotton, wool, hides, flax, hemp, silk, timber, salt, iron, corn, and various articles of home production; and they receive timber, wool, corn, and various articles from the valleys of the Rhine and the Danube.

The local traffic of Holland includes provisions, fruit, cattle, corn, fish, seed cake, seed oils, salts, leather, refined sugar, hollands, converted timber, woven fabrics, bricks, tiles, pottery, pipes, butter, cheese, tobacco, snuff, madder and dye stuffs, paints and chemicals, &c. Many articles are manufactured in the upland and shipped on the seaboard, and the raw materials also are carried up the country. As the Dutch Rhenish Railway, by itself and its connections, effects a communication with all the chief towns in the heart of Holland, the increase of traffic, which must result from increased accommodation, is evident.

We shall now consider some articles of traffic, which the experience of England has shown are greatly affected by railway communication, and from which the Dutch Rhenish Railway will profit.

Cattle is an article carried on the English railways, to the extent of 220,000 beast and 1,250,000 sheep,* and on which, either in the conveyance of lean or fat animals, a large saving of animal food is effected. The cattle traffic on the Dutch Rhenish Railway is large, because it embraces all the cattle-producing countries from Mecklenburg and Holstein westward, which will be brought by the Overysse! Railway. There is also the traffic of Holland. The home consumption is large, and so is the trade to France; while the shipment of fat cattle by steam, from Rotterdam to London and Hull, has acquired importance under the new tariff. With a good railway system, this branch of traffic must be greatly increased, particularly in winter, when the cattle cannot travel on foot. There is no reason why this traffic should be under £20,000 a year.

Coal traffic will be promoted; for while Newcastle coal, which is brought as cheaply to Rotterdam by sea as to London, will be landed at the Company's wharf at Rotterdam on to the railway trucks, for the supply of manufacturers and the superior class of consumers, the cheaper coals, from the coal fields in the neighbourhood of Cologne and the Lower Rhine, will be brought down by railway from the pit's mouth. The aggregate coal traffic of England in 1845, was 7,000,000 of tons.†

* Contributions to Railway Statistics, by Hyde Clarke, Esq., p. 11. See also the *Railway Register*, vol. iv.

† Contributions to Railway Statistics. p. 15.

The coal traffic on the Dutch Rhenish Railway cannot fall short of 500,000 tons, and may amount in time to much more.

Iron will be brought down from the mines and works in the up country, and the superior qualities from Sweden and England will be carried from the sea coast.

Lime has been found in England a very large item of railway traffic, and a most important article in agriculture. It is calculated that each acre of land requires six cwt. of lime per year,* and the consumption of England is already equal to the supply of a million of acres. In Holland there is a deficiency of this substance, but the Dutch Rhenish line will receive it by railway from the limestone formation in the neighbourhood of the Dusseldorf coal-field. In Gelderland especially the introduction of mineral manures for the amelioration of the soil will be sensibly felt. Sea-sand, silt, clay, ashes, decayed fish, and compost, the produce of Holland, will also be advantageously carried; lime can also be obtained from England.

Holland is finely situated for the manufacture of bricks, tiles, and pottery, which are articles of railway traffic, while it would receive building stone from the quarries lying alongside the Prussian railway.

Timber, rough, sawn, or converted, would be carried, and all superior timber would be brought by railway, instead of being floated down the Rhine, which injures the timber, and causes a loss of time in seasoning and a loss in the interest of money.

The fisheries, as is popularly known, are successfully followed in Holland, but a large market, that of the interior, is now left unsupplied from want of quick transit. The railway would certainly carry 10,000 tons of fish a-year into the inland districts, and would deliver them on the upper Rhine within twenty-four hours. This traffic bears a very remunerative charge.

Provisions, vegetables, and fruit are consumed largely in the great towns of Amsterdam, Rotterdam, and Utrecht, and are shipped from Rotterdam to England. This also pays well.

The nature of the grain traffic we have already explained, but we must further observe that nearly all grain consumed in the country is imported.

Thus the Dutch Rhenish Railway wants no elements of success, and if its shares are at a temporary discount, we know only one inference that can be drawn—that is, this is the best time to buy.

* See an excellent article on Agriculture, not on Railways, in the last number of the *Edinburgh Review*.

WATERPROOFING FOR RAILWAY PURPOSES, WITH VEGETABLE BLACK.

It is well known that carbon is a substance less liable to change, from the action of time, than almost any other. We have proofs of this in the fact, that piles have been found, after immersion for ages in rivers and morasses, as sound as when placed there, in consequence of having their outer surfaces charred; and in the beauty of the characters traced on the manuscripts discovered at Herculaneum, which are as perfect now as when written, and of which the colouring matter is ascertained to be carbon.

At the present day, the most useful black pigments we have are modifications of carbon, more or less impure, and they are principally obtained by the condensation of smoke, generated by the imperfect combustion of substances containing large quantities of carbon, as tar, oil, rozin, and the like. The carboniferous products of these are, however, considerably contaminated by foreign matter, which is gasified, and passes over with the smoke. These impurities injure the durability of the carbon, and render it needful, in making it into paint, to add sugar of lead, or some similar substance, to act as a drier, and cause the paint to harden.

In the case of carbon made from wood, i. e. wood charcoal, the process of carbonising being carried on at a red heat, the impurities are driven off, and a nearly pure article remains, of an indestructible nature and brilliant black appearance; but hitherto no means have been known of reducing this charcoal to a powder, sufficiently fine to be made available for the purposes for which the smoke blacks have been used. The mode of doing so has now, however, been made the subject of a patent by Mr. Jones, of Chester, and the means he employs are these.

The great obstacle to minute division of the particles of charcoal in the ordinary mills, arises from the elasticity of the material operated upon, and from the portions reduced to a sufficient state of fineness preventing the abrasion of the remainder; and no sieve is sufficiently fine to make the separation. Mr. Jones grinds his charcoal in a common mill, but causes a gentle current of air to pass through it, by which means, as soon as the particles become fine enough to float on that current, they are carried away by it, and are allowed to deposit in a large chamber prepared to receive them.

It is evident that the fineness of the powder thus obtained will be in inverse proportion to the strength of the current of air, and thus any needful degree of minuteness in the atoms may be procured. The purity and fineness of the powder so prepared is such, that it only needs stirring into boiled oil to make at once a brilliant and durable paint.

ON PREVENTING ACCIDENTS IN MINES.

BY R. RETTIE, C.E.

(Continued from page 100.)

I had almost despaired in again being able to resume this important subject, from the multiplicity of my engagements; and did it not, as it were, hang upon me with a weight, and as a bounden duty incumbent, from knowing and lately having seen so many instances where, by gross carelessness alone, many valuable lives continue to be sacrificed. So plainly does it appear to me that *until the government surveillance commences not only on mines, but railways and steam boats, sailing vessels, by some such simple law as has been pointed out before, while treating on this subject, that those parties by whose neglect their fellows suffer damage or loss of life, shall have to provide due sustenance in future for those left dependent by such a cause. This must be imperative by the government, and why does the government stand still upon this important subject? Were it those barbarous and heathenish game laws that have sunk a noble peasantry, a country's pride by name, to outlaws and felons; and given food for the gallows for years past, which can be traced to be the true bane and cause of thousands of the everyday crimes which crowd our criminal courts. You afford instantly protection to your birds, your fishes, and your four-footed beasts. Can you not? You are the lawgivers of the country, think upon the gross outrage you are continually allowing to be perpetrated. The violence and destruction heedlessly and disgracefully continued, whereby families are left in penury and poverty, and until they become many times and oft the very dregs of society, by being left destitute and unprovided for. When the "Accidents to Life" bill was passed, all was expected to be right, but, alas! as usual, it was but *expectation*; like hope deferred, it maketh the heart sick! A jury will be found to do or say anything; but what becomes of the judge? Why does he not point out to the jury that a return of "accidental death" is not true if that *accident* was caused by gross carelessness; for instance, as occurred, "two men tumbled from a corve. I did not see it to be sure, but, sitting down at my own fire-side, I read the account of the verdict of the judge and jury, and blamed them all, as aiding and abetting the destruction of life, which could, by a judicious verdict, have been put a stop to, and been the means of preventing for ever after, at all the pits, a similar occurrence." And what would be the expense, gentle reader—only some few shillings at most.*

I represented the corve in one of the early numbers, where the hook, which has the clasping of the corve, at the end of chain or rope, whichever may be used, is left quite open. Should, therefore, any obstruction occur to the corve in descending, or even if it occurs in ascending, the contents of the corve, "man, woman, or boy," are tumbled down 50 or 250 fathoms, and dashed to pieces. Now, this is not a new thing. This has been known long ago; and I just ask, How many have met their death by this "ill-looking hook?" How many? Why they'll be ashamed to answer. Hundreds! Aye, thousands! and all of whom might, by a hook of a different construction, have saved this vast number of human souls! and those,

alas, depending on them; and all this arises from its being *nobody's* business to look after it.

Often does my heart sicken, and my blood boil within me, when I see the thousands upon thousands voted away by government for the semblance of a thing that has for its object the destruction of human life. What is the cause? I ponder; but still left in doubt, why the governors of a Christian country should so far forget their duty to God and man, and allow selfishness to overrun their great community, for the sake of gain and trade, to sacrifice their fellow-creatures in thousands at the shrine of Mammon, despicable Mammon. Mines, with their thousands of industrious miners; railways, with their tens of thousands, fleeting to and fro every instant, both day and night; steamers and sailing vessels in the same unenviable situation, and equally exposed, by carelessness and selfishness, to have their contents blown up, or dashed to pieces. How long will the government look on? How long will they stand aside?—while the pageants, the balls, the routes, engross their whole attention. Till some great, some fearful calamity arouse them by the rising of those people, whose public voice will cause them to shudder at the indifference displayed towards their best interests, which it was their duty to protect. Individuals may waste their time—their talents—for the mass; but unless those who govern the country put their shoulder to the wheel and aid them on, it is impossible that any amelioration can be made; but we invariably find where the governors truckle, and allow the selfishness of parties to usurp the best interests of the people, it shows that it may continue for a little, but a fearful reaction will soon, perhaps much sooner take place, than the most careless and indifferent may imagine.

The Great Contriver of the universe works, when vain man fancies to himself that he alone has a right to think and act, to control his fellow creatures, and mar their best interests. It is all very well to say they feel, but let them show by their works they do so. There is not a mine in the kingdom, but by laying out a *few pounds only*, such deplorable accidents can be avoided, and save the expenses which, by the neglect of such contrivances, costs the country thousands of pounds, and leaves behind hundreds of widows and thousands of orphans. How long will this shameful work be tolerated by a civilized people? Talk of the heathens—let them look at home. The heathen indeed! Often does the negro say, “White man does far worse than the black man any day!”

Yes, I feel in thus speaking the truth, which at all times is disagreeable, that I lay myself open to reflection. Be it so. I trust that the tone of society will yet assume a degree of sensibility of the right sort; and when all humbug and subterfuge, which at present goes down, will be exposed and turned adrift, then, and not till then, will such a reformation begin that will *cause*, not only the best interests of the miners alone, but the mass of the people, to be studied with care and feeling, for their comfort and exaltation, and a credit among the nations.

THE STATISTICS OF BELGIAN TRAFFIC IN 1844 AND 1845

BY HYDE CLARKE, ESQ.

1. *Chemin de Fer. Compte-Rendu des Opérations de l'Exercice, 1844. Rapport Présenté aux Chambres Législatives le 19 Février, 1845. Par le Ministre des Travaux Publics, Bruxelles, 1845. (The Railway Report for the Financial Year 1844. By the Minister of Public Works.)*
2. *Report of the Officers of the Railway Department to the Lords of the Committee of Privy Council for Trade, with Appendices I. and II. For the years 1844-5. London: Printed for her Majesty's Stationery Office, 1846.*
3. *Contributions on Railway Statistics in 1845. By HYDE CLARKE, Esq. London: Weale, 1846.*

NO. 1.—BELGIAN TRAFFIC OF 1844.

THE statistics of Belgian railways are a legitimate subject of study among practical railway men in this country, and it is the more desirable they should be carefully considered, as, from the apparent lowness of Belgian fares, deductions have been drawn most erroneous and mischievous in their application, and most injurious to the interests of English Companies. Quackery has long had too great sway in parliamentary and government proceedings on railways, and the most narrow-minded conceptions have been put forward as liberal and extensive views. The mania for centralisation and systematisation, for neology and theorising, which flourishes so luxuriantly in the present day, has found a favourite field for excursion in the domain of railways. Men who did not know the working of an English railway sought light from Belgian models, and, too idle to select their materials carefully, were laborious enough in carrying out crude generalisations, which tempted their indolence, because they promised novelty, and which gratified their exertion because they pandered for the applause of vulgar prejudice.

The announcement that Belgian fares are lower than some English fares, and that some English lines pay 10 per cent. dividend, was received as satisfactory evidence that the Belgian system was superior, and that the English system was attended with exorbitant fares and diminished accommodation. Caution would have dictated that as the question to be determined was the total extent of accommodation afforded to the public, that this should in some degree be examined, instead of resting on the testimony of isolated and individual facts, which moreover had not been tested. Mr. Morrison's parliamentary committee afforded a convenient engine for propagating and extending the delusion. Chairmen, secretaries, and engineers were asked how it was that English lines were not carrying at Belgian fares, and how it was that English lines did not carry so large a proportion of third class passengers; and though they had impressions adverse to the premises sought to be drawn, they were baffled, sometimes entrapped, and unable to give satisfactory explanations on points which require laborious calculation and minute investigation.

As we shall subsequently be able to prove, if Mr. Morrison's or the Belgian system could be carried out in this country, the profits of the companies would be the same; but the extent of accommodation to the public would be very much less, our passenger traffic would be reduced to one-third, our goods traffic to one-half, our enormous cattle traffic to a twentieth, while not merely the numbers carried, but the accommodation would be less.

The figures which we shall hereafter give will also show the danger of drawing hasty conclusions as to railway traffic, or applying the law of traffic of one district to another. It will also show the impracticability of applying that gross delusion, a system of uniform fares. Where lines have no goods traffic there must be higher passenger fares, and where there is a large first class passenger traffic the accommodation can be greater than where the passenger traffic is third class.

The last report on railways of the Belgian Minister of Public Works is for the year ending 31st December, 1844; the returns for the English lines are for the years ending the 30th June; therefore an advantage in comparison is given to the Belgian lines, as they take in a period of more developed traffic.

In the calculations applied in the following observations 25 francs are taken as £1. For all practical purposes the former is more convenient than a fluctuating exchange, and it readily admits of re-calculation in either currency.

The expenditure in railways to the 31st December, 1844, was as follows:—

Permanent way	-	-	-	-	£4,450,161
Workshops and engines	-	-	-	-	59,525
Stations	-	-	-	-	378,865
General and office expenses	-	-	-	-	175,923
Working plant	-	-	-	-	725,398
					<hr/>
					£5,789,872

The length of line opened was 145 miles double way, and 200 miles single way, being a total of 345 miles. The mean cost per mile was about £17,000.

The state of the working plant was as follows:—

Locomotives	-	-	-	-	146
Tenders	-	-	-	-	145
Passenger carriages	-	-	-	-	631
Goods, waggons, &c.	-	-	-	-	2,279

Three locomotives, twenty-five passenger carriages, and 367 waggons and trucks were added to the stock during the year.

The following is the stock of the three Great English amalgamations—the London and North-Western, Midland, and Great Western, according to recent returns:—

	Belgian.	L. & N.-West.	Midld.	Gt. West.
Miles	345	338	259½	240½
Locomotives	146	400	160	127
Passenger carriages	631	800	317	232
Goods, waggons, and trucks	2,279	3,500	2,641	919

The Belgian minister observes that his lines want stock and power to work the growing traffic.

The working expenses in 1844 were as follows:—

Management - - -	£14,540	or	6·30
Maintenance of way - -	56,003		24·28
Locomotive power - -	113,669		49·29
Carrying expenses - -	38,253		16·59
Booking and receiving -	8,152		3·54
	<hr/>		<hr/>
	£230,617		100·

The total working expenses per mile are £668; whereof maintenance of way and works about £170 per mile.

In 1843 the number of miles run was 1,173,000; in 1844 the number of miles run was 1,553,000. The mean price of coke was from 19s. to 20s. per ton. The working expenses per mile run were 3 francs, or 2s. 6d. The proportion of miles run for passengers is 66 per cent., for goods 34 per cent.

The number of rails renewed was 2,460, making a total length of 69 miles; of these 537 broke, and 1,468 were worn out.

The total number of passengers carried in 1844 was as follows:—

First class - - - -	362,234
Second class - - - -	928,606
Third class - - - -	2,070,022
Soldiers, &c. - - - -	20,667
	<hr/>
Total - - - -	3,381,529

The proportion per cent. of each class was as follows:—

First class - - - -	10·75
Second class - - - -	27·66
Third class - - - -	61·59
	<hr/>
Total - - - -	100·

The number of passengers per day was 9,239; the number of passengers per mile per annum was 9,800.

The increase of passengers over 1843 was as follows:—

First class - - - -	51,928
Second class - - - -	74,208
Third class - - - -	163,633
Military, &c. - - - -	6,411
	<hr/>
Total - - - -	296,180

This is equivalent to an increase of rather more than 9 per cent. over 1843.

The total weight of luggage carried was 10,496 tons.¹

The parcels traffic was 227,480 parcels by number, and further a weight of 39,800 tons.

The number of carriages conveyed was 3,491, being an increase of 16 per cent., and of horses 2,154, or 26 per cent. increase.

¹ The ton is taken at 1,000 kilograms.

The number of cattle was 12,691, being an increase of 47 per cent., and of sheep and pigs 39,056, being an increase of 16 per cent.

The total weight of heavy goods was 560,223 tons, being an increase of 201,660 tons, or more than 56 per cent.

The chief stations for passengers are the following:—

Brussels, North	-	436,389	passengers sent out	429,600	received
Ditto South	-	181,344	„ „	179,800	„
Total	-	617,733	„ „	609,400	„
Ghent	-	246,731	„ „	246,900	„
Antwerp	-	192,987	„ „	194,700	„
Mechlin	-	182,994	„ „	188,900	„
Liege	-	132,663	„ „	142,100	„
Bruges	-	120,273	„ „	121,700	„
Louvain	-	111,934	„ „	112,900	„
Mons	-	103,073	„ „	99,500	„
Verviers	-	85,563	„ „	85,700	„

These stations furnished 1,793,951 passengers sent out, and 1,801,800 received; more than half the whole traffic.

The ten chief goods stations were as follows:—

Liege	-	89,442	tons sent out	15,786	tons received
Antwerp	-	61,026			
Ans	-	48,908	„	21,424	„
Manage	-	33,055			
Louvain	-	25,071			
Tournay	-	21,637			
Charleroi	-	21,035			
Ecaussines	-	15,137			
Chênée	-	14,970	„	18,419	„
Gosselics	-	12,330			

This is a total of 342,615 tons sent out, or nearly two-thirds of the whole goods traffic.

The chief stations which received goods were—

Brussels, North	-	-	-	65,110	tons
Herbesthal	-	-	-	57,103	„
Verviers	-	-	-	32,485	„
Mouscron	-	-	-	25,826	„
Quiévrain	-	-	-	22,384	„
Antwerp	-	-	-	18,058	„

The receipts in 1844 were £449,220, showing an increase of £89,442 over 1843, or 24·80 per cent.

Passengers	-	-	-	£246,662	increase per cent.	11
Luggage	-	-	-	15,789	„	15
Specie	-	-	-	1,504	„	31
Carriages	-	-	-	8,253	„	20
Horses and cattle	-	-	-	4,994	„	45
Parcels	-	-	-	35,981	„	45
Goods	-	-	-	132,920	„	44
Extraordinary receipts	-	-	-	3,075	„	617
				£449,220	„	25

The per centage of receipts is as follows:—

Passengers	-	-	-	-	-	55
Luggage	-	-	-	-	-	3.5
Specie	-	-	-	-	-	0.3
Carriages	-	-	-	-	-	1.8
Horses, &c.	-	-	-	-	-	1.2
Parcels	-	-	-	-	-	8
Goods	-	-	-	-	-	29.66
Sundries	-	-	-	-	-	.6

100

Or, as follows—

Passengers and luggage	-	-	-	58.5
Goods and parcels	-	-	-	37.6
Cattle, carriages, &c.	-	-	-	3.8

100

The passenger receipts were as follows:—

First class	-	-	£63,645	or	26	per cent.
Second class	-	-	88,742	„	36	„
Third class	-	-	92,852	„	38	„
Military, &c.	-	-	1,422			

Total - - £246,662 100

The mean receipt per passenger was—first class, 4.39 francs; second class, 2.39 francs; third class, 1.12 francs; or a general average of 1.82 francs (1s. 6d.)

The mean distance for each passenger was—first class, 3½ miles; second class, 25 miles; third class, 15 miles.

There was an increase on the mean receipt and mean distance of first class passengers, arising from the increase of through passengers.

The following stations have given the chief receipts:—

	Total Receipts.	Passengers.	Goods.
Brussels, North	- £59,592	£46,442	£11,773
Ditto South	- 25,795	17,749	6,176
Total	- 85,387	64,191	17,950
Antwerp	- 60,360	21,385	37,258
Liege	- 36,848	14,926	19,091
Ghent	- 30,256	21,385	6,939
Louvain	- 16,207	7,990	7,333
Ostend	- 15,374	9,150	
Mechlin	- 12,282	8,942	
Bruges	- 10,258	8,131	
Namur	- 9,770		
Mons	-	6,662	

The German traffic is as follows:—

Passengers, first class	-	£4,348 in	£4,320 out
Ditto second class	-	3,592 „	2,752 „
Ditto third class	-	2,072 „	1,872 „
Total	-	£10,016	£8,948

Brought forward	- £10,016	£8,948
Luggage - - - -	1,824	1,628
Specie - - - -	40	20
Parcels - - - -	1,324	2,256
Horses - - - -	124	124
Carriages - - - -	1,680	1,392
Cattle - - - -	992	4
Sheep and pigs - - - -	-	4
Goods - - - -	2,232	19,988
Totals - - - -	- £18,232	£34,364

The grand total receipt from this traffic is £52,796. This is one-eleventh of the whole Belgian railway receipts. The third class receipts are of little or no importance.

The French traffic was as follows:—

Passengers, first class - -	- £3,608 in	£3,792 out
Ditto second class - -	4,356 "	4,412 "
Ditto third class - -	3,600 "	3,360 "
Total - - - -	- £11,564 "	£11,564 "
Luggage - - - -	816 "	808 "
Specie - - - -	16 "	36 "
Parcels - - - -	1,228 "	1,440 "
Carriages - - - -	836 "	800 "
Horses - - - -	44 "	828 "
Cattle - - - -	0 "	500 "
Sheep and pigs - - - -	0 "	76 "
Goods - - - -	1,176 "	9,360 "
Totals - - - -	- £15,728	£25,500

This gives a total of traffic from and to France of £41,228, or 9·17 per cent. of the whole Belgian traffic.

Of the whole Belgian traffic receipts the proportions are as follows:—

German traffic - - -	£52,796	or 11·75 per cent.
French ditto - - -	41,228	" 9·17 "
Internal - - - -	355,196	" 79·08 "

£442,220 " 100 "

The total receipts in 1844 were - - -	£449,220
Ditto working expenses - - -	230,617

The net profit - - - - £218,602

The working expenses were - - -	51·33 per cent.
The net profit - - - -	48·66 "

100·

The gross earnings per mile - - -	£1,250
Ditto expenses ditto - - -	668

The net profit - - - - £590

The net profit on the capital expended was 3·89 per cent. per annum ; but this includes no charge for mails and other services, and only a nominal charge for the conveyance of troops, prisoners, &c. The net profit is, therefore, calculated by the Minister at 4 per cent. per annum.

This does not, however, represent the whole state of the case ; because on the large passenger traffic upon the northern and western line (to Ostend) a profit of near 10 per cent. is realised, which brings up the average for the heavy lines of the east and south.

The cost of the lines from Brussels to Antwerp and Mechlin to Ostend, 104 miles long, has been about £1,400,000, or about a quarter of the whole expenditure, the length being as 104 to 345.

The receipts for those sections were	-	-	£203,578
Net profit, taken at 48·66 per cent.	-	-	99,061

The net profit per cent., at 48·66 per cent., is 7 per cent. on the north and west sections ; but the working expenses must, on account of severer gradients and thinner traffic, be higher on the other sections ; therefore we cannot take the working expenses on the north and west sections at more than 45 per cent., and the net profit is 55 per cent.

The receipts for those sections were	-	-	£203,578
Net profit, taken at 55 per cent.	-	-	111,968

This would give a net profit on the north and west sections of 8 per cent. per annum, exclusive of post-office and other government services. The cost of the remaining 231 miles is £4,400,000.

The receipts for those sections were	-	-	£245,640
Working expenses	-	-	149,000

Net profit	-	-	£96,640
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This would give a net profit on the remaining sections of 2·2 per cent. per annum ; so that the local traffic between Ghent and Brussels is made to pay for the local traffic between Liege and Verviers. The justice of this we cannot see ; and it illustrates effectively the doctrine of uniform fares, which, under the pretence of equity, commits the greatest injustice.

The accidents in 1844 were to passengers, arising from circumstances beyond all foresight, killed 3, injured 9 ; from their own imprudence, injured 2. The number of railway servants killed was 4, and wounded 2 ; of persons crossing the road, killed 4, wounded 2 ; suicides 3.

No. 2.—BELGIAN TRAFFIC FOR 1845.

For the year 1845 I have been favoured with the figures by Mr. Brackstone Baker, Secretary of the Dendre Valley Railway, the government report not being yet published.

The total number of passengers carried in 1845 was as follows:—

First class	-	-	397,608
Second class	-	-	970,662
Third class	-	-	2,074,796
Soldiers, &c.	-	-	27,614
Total	-	-	3,470,680

The proportion per cent. of each class was as follows :—

First class	-	-	-	-	11·54
Second class	-	-	-	-	28·19
Third class	-	-	-	-	60·23
Total					100·

The number of passengers per day was 9,508; the number of passengers per mile per annum, 10,059.

The increase of passengers over 1844 was as follows :—

First class	-	-	-	-	35,374
Second class	-	-	-	-	41,946
Third class	-	-	-	-	4,774
Military, &c.	-	-	-	-	6,947
Total					89,041

This is equivalent to an increase of 2½ per cent.

The total weight of luggage carried was 11,041 tons.

The parcels traffic was 241,661 parcels by number, and 45,061 tons carried by weight.

The number of carriages conveyed was 3,562, or an increase of less than 2 per cent. The number of horses conveyed was 2,499, or an increase of 16 per cent. on the year.

The number of cattle was 7,597, showing a decrease of 40 per cent., and of sheep and pigs 29,704, showing a decrease of nearly 30 per cent. on the year.

The total weight of heavy goods was 645,501 tons, showing an increase of 23 per cent. on the previous year.

The receipts in 1845 were £496,128, showing an increase over 1844 of £46,508, or more than 10 per cent.

The following are the receipts under each head of traffic in 1845, and the rate of increase per cent. over the previous year :—

Passengers	-	£255,732	increase per cent.	3
Luggage	-	16,861	„	7
Specie	-	1,722	„	15
Carriages	-	7,695	decrease per cent.	6
Horses and cattle	-	3,505	„	28
Parcels	-	40,364	increase per cent.	12
Goods	-	170,343	„	34
Total				10
Total				£496,128

The per centage of receipts is as follows :—

Passengers	-	-	-	-	50·
Luggage	-	-	-	-	3·4
Specie	-	-	-	-	0·3
Carriages	-	-	-	-	1·6
Horses and cattle	-	-	-	-	0·7
Parcels	-	-	-	-	8·
Goods	-	-	-	-	34·

100·

Or as follows:—

Passengers and luggage	-	-	53·7
Goods and parcels	-	-	42·
Cattle, carriages, &c.	-	-	4·3
			100·

The mean receipt per passenger was 1 franc 84c., or 1s. 6d.

The total receipts in 1845 were	-	-	£496,128
Ditto working expenses ¹	-	-	248,064
The net profit	-	-	248,064
The gross earnings per mile	-	-	1,330

The net profit and the capital expended is 4·02 per cent. per annum, exclusive of service of mails, conveyance of military, &c.

It will most probably be found that the net profit on the north and west sections in 1845 is about 9 per cent. per annum, exclusive of post-office and other government services.

It is to be remarked that although very voluminous on passenger traffic, the Belgian returns are singularly deficient on the details of goods traffic; so that there are no particulars as to coals, stone, lime, minerals, corn, provision, fish, &c.

No. 3.—COMPARISON OF BELGIAN TRAFFIC IN 1843, 1844, AND 1845.

The number of passengers carried in three successive years, is as follows:—

	1st Class.	2nd Class.	3rd Class.	Total.
1843	- 310,306	854,398	1,906,389	3,085,349
1844	- 362,234	928,606	2,070,022	3,381,529
1845	- 397,608	970,552	2,074,796	3,470,680

The proportion per cent. of each class is as follows:—

	1st Class.	2nd Class.	3rd Class.
1843	- 10·10	27·80	62·10
1844	- 10·75	27·66	61·58
1845	- 11·54	28·19	60·27

It will be seen that the constant tendency of the first and second class is to increase, and of the third class to decrease. The following are the per centage comparisons between 1843 and 1845:—

First class	-	1·44, increase, or 13 per cent.
Second class	-	·39, „ 1 per cent.
Third class	-	1·83, decrease, or 3 per cent.

The successive increase of passengers is

First class	-	51,928, 1844.	35,374, 1845.
Second class	-	74,208 „	41,946 „
Third class	-	103,633 „	4,774 „
Military, &c.	-	6,411 „	6,947 „
Total	-	296,180	89,041

¹ The working expenses in 1844 were 51·33; they are, therefore, reckoned at 50 per cent. in 1845, allowing for progressive improvements.

Whereas the increase per cent. was, in 1844, 9 per cent. on the number of passengers in 1845, it declined to $2\frac{1}{2}$ per cent., showing that the development of the Belgian traffic is not proceeding in a satisfactory direction, so far as the passengers are concerned.

The number of passengers per day stand as follows :—

1844	-	-	-	-	-	9,239
1845	-	-	-	-	-	9,508

Increase - - - - - 269, or nearly 3 per cent.

The number of passengers per mile per annum shows a similar slight increase.

1844	-	-	-	-	-	9,800
1845	-	-	-	-	-	10,059

Increase - - - - - 259

The luggage carried compares as follows :—

1843	-	-	-	-	-	9,543 tons
1844	-	-	-	-	-	10,496 „
1845	-	-	-	-	-	11,041 „

Increase - - - - - 545 tons

The parcels traffic stands thus :—

1843	-	192,198	by number, and	25,109	tons by weight.
1844	-	227,480	„	39,800	„
1845	-	241,661	„	45,061	„

Increase 14,181 5,261

The increase is 6 per cent. on those carried by number, and 14 per cent. on those carried by weight.

The carriage traffic stands thus :—

1843	-	-	-	-	-	3,000
1844	-	-	-	-	-	3,491
1845	-	-	-	-	-	3,562

The horse traffic stands thus :—

1843	-	-	-	-	-	1,700
1844	-	-	-	-	-	2,154
1845	-	-	-	-	-	2,499

The cattle traffic stands thus :—

1843	-	8,609	cattle	-	33,562	sheep and pigs
1844	-	12,691	„	-	39,056	„
1845	-	7,597	„	-	29,704	„

The decline of this most important branch of traffic is a serious reflection on the managers on the Belgian lines, as the traffic is less in 1845 than in 1843.

The total weight of heavy goods is as follows :—

1843	-	-	-	-	-	333,453 tons
1844	-	-	-	-	-	520,422 „
1845	-	-	-	-	-	645,501 „

The goods traffic does not advance at the same rate as in 1844, because in that year the German and French traffic was first brought on the Belgian lines; but since 1844 the goods traffic has nearly doubled.

The receipts of the three years stand thus:—

Passengers	- £219,290 in 1843	£246,662 in 1844	£253,732 in 1845.
Luggage	- 13,633	15,789	16,851
Specie	- 1,177	1,504	1,722
Carriages	- 6,855	8,253	7,695
Horses & cattle	3,543	4,994	3,505
Parcels	- 24,806	35,981	40,364
Goods	- 92,016	132,920	170,343
Sundries	- 428	3,075	
	<hr/>	<hr/>	<hr/>
	361,650	449,220	496,128

The per centages of each class of receipts stand thus:—

Passengers	-	- 55·0 in 1844	50·7 in 1845
Luggage	-	- 3·5	3·4
Specie	-	- 0·3	0·3
Carriages	-	- 1·8	1·6
Horses & cattle	-	- 1·2	0·7
Parcels	-	- 8·0	8·0
Goods	-	- 29·66	34·0
Sundries	-	- 0·6	—
Total	-	<hr/>	<hr/>
		10·0	10·0

Or as follows:—

Passengers and luggage	-	- 58·5 in 1844	53·7 in 1845
Goods and parcels	-	- 37·66	42·
Cattle, carriages, &c.	-	- 3·84	4·3
		<hr/>	<hr/>
		10·0	10·0

The increase per cent. on each class of receipts in the years 1844 and 1845 over each preceding year, stands thus:—

Passengers	-	- 11 per cent. in 1844	3 per cent. in 1845
Luggage	-	- 15	7
Specie	-	- 31	15
Carriages	-	- 20	6
Horses and cattle	-	- 45	28
Parcels	-	- 45	12
Goods	-	- 44	34
Total	-	- 25	10

The mean receipt per passenger is as follows:—

1843	-	1 franc 77 cents. 1s. 5d.
1844	-	1 " 82 " 1s. 6d.
1845	-	1 " 84 " 1s. 6½d.

The mean receipt per passenger is increased by the increase on the first and second class passengers.

The gross earnings per mile are shown as under—

1843 - - - -	£1,160
1844 - - - -	1,250
1845 - - - -	1,330

No. 4—COMPARISON OF BELGIAN AND ENGLISH RAILWAY TRAFFIC.

For the purpose of comparison with the Belgian lines, we shall take the three great amalgamated classes, mentioned in our first section, namely, the London and North-Western, the Midland and the Great-Western.

In 1844 the goods traffic stood thus:—

Belgian length - - -	345 miles	570,717 tons
London and North Western -	338 „	98,307 „
Midland - - - -	211 „	673,252 „
Great Western* - - -	205 „	129,283 „

These reduced to the same standard in round numbers, and the Belgian traffic being taken as the standard, would represent the following quantities:—

Belgian - - - -	570,000 tons
London and North Western -	1,000,000 „
Midland - - - -	1,100,000 „
Great Western - - -	210,000 „

In 1844 the cattle traffic stood thus:—

Belgian length -	345 miles	12,691 cattle	39,056 sheep and pigs
London & N. Western	338 „	58,689 „	516,142 „
Midland - - -	211 „	22,480 „	101,163 „
Great Western -	205 „	9,106 „	193,326 „

These reduced to the same standard, the Belgian would represent the following quantities:—

Belgian - - - -	12,700 cattle	40,000 sheep and pigs
London and N. Western -	60,000 „	525,000 „
Midland - - - -	36,000 „	160,000 „
Great Western - - -	15,000 „	260,000 „

The carriage and horse traffic in 1844 compared thus:—

Belgian length - - -	345 miles	3,491 carriages	2,154 horses
London and North Western	338 „	9,491 „	19,287 „
Midland - - - -	211 „	5,673 „	11,432 „
Great Western - - -	205 „	6,963 „	18,986 „

These reduced to the same standard, the Belgian would represent the following quantities:—

Belgian - - - -	3,500 carriages	2,150 horses
London and North Western -	10,000 „	20,000 „
Midland - - - -	8,400 „	19,000 „
Great Western - - -	11,700 „	26,000 „

We do not think it necessary to go into the details of the passenger traffic for 1844, as they would require some length for their discussion, and enough has been shown above to exhibit the higher development of railway traffic in this country.

* The Great Western carries no coal or mineral produce.

The proportion of traffic in 1844, taking the Belgian as the unit stands thus :—

Belgian	-	-	-	1 goods	1 cattle	1 sheep, &c.
London and North Western	2	„	5	„	13	„
Midland	-	-	2	„	3	„
Great Western	-	-	$\frac{1}{2}$	„	$1\frac{1}{4}$	„

For 1845 we shall give a more extended comparison.

The number of passengers carried is given below :—

Belgian	-	-	-	345 miles	3,470,680
London and North Western	-	-	-	338 „	4,106,329
Midland	-	-	-	259 $\frac{1}{2}$ „	2,423,935
Great Western	-	-	-	240 $\frac{1}{2}$ „	1,993,088

The number of passengers of each class carried, is next given :—

First Class.

Belgian	-	-	-	397,608
London and North Western	-	-	-	960,335
Midland	-	-	-	365,689
Great Western	-	-	-	448,616

Second Class.

Belgian	-	-	-	970,662
London and North Western	-	-	-	1,595,715
Midland	-	-	-	938,800
Great Western	-	-	-	1,302,228

Third Class.

Belgian	-	-	-	2,074,796
London and North Western	-	-	-	1,550,679
Midland	-	-	-	1,119,445
Great Western	-	-	-	242,243

These shall now be reduced to the Belgian standard, in order to afford correct means of comparison.

Total number of passengers carried the same length :—

Belgian	-	-	-	3,500,000
London and North Western	-	-	-	4,200,000
Midland	-	-	-	3,200,000
Great Western	-	-	-	2,800,000

Proportion of classes reduced to the Belgian standard for the same length :—

	1st. Class.	2nd. Class.	3rd. Class.			
Belgian	-	-	-	400,000	1,000,000	2,000,000
London and North Western	1,000,000	1,600,000	1,600,000			
Midland	-	-	-	480,000	1,250,000	1,500,000
Great Western	-	-	-	620,000	1,900,000	350,000

The following is the per centage of passengers of each class :—

	1st. Class.	2nd. Class.	3rd. Class.			
Belgian	-	-	-	11	28	60
London and North Western	24	38	38			
Midland	-	-	-	15	38	47
Great Western	-	-	-	22	66	12

It will be perceived that the diversity of the traffic in the several districts is very great, and that notwithstanding what has been said about

Mr. Hudson's management of the Midland, and his discouragement of third class passengers, that his results very nearly come up to the Belgian, so far as third class passengers are concerned, and that in fact he has a very poor passenger traffic to work with.

The superior richness of the London and North Western and Great Western traffic in first class passengers is well shown, and whatever may be said about discouraging traffic, parties are not forced from second class carriages into first class carriages, even if we believed they were forced from third class carriages into second.

The traffic of every district varies, and the scale of charges must be accommodated to that traffic. The vast first class traffic of the London and North Western, and of the Great Western, will, however, upon the same scale of charges, produce a much larger gross traffic than the poor passenger traffic of the Belgian or the Midland lines. The Great Western, however, has no resources in mineral or goods traffic, so that its circumstances again differ from those of the London and North Western, the Midland and the Belgian.

The number of carriages carried, is given below :—

Belgian	-	-	-	-	345 miles	3,562 carriages
London and North Western	-	338	„			9,582 „
Midland	-	259½	„			5,718 „
Great Western	-	240½	„			6,641 „

The following is a comparison founded on the Belgian standard :—

Belgian	-	-	-	-	3,500 carriages
London and North Western	-	10,000	„		
Midland	-	7,600	„		
Great Western	-	9,300	„		

The number of horses carried in 1845 is as follows :—

Belgian	-	-	-	-	345 miles	2,499 horses
London and North Western	-	338	„			18,847 „
Midland	-	259½	„			10,256 „
Great Western	-	240½	„			10,504 „

The proportion on the Belgian standard is thus :—

Belgian	-	-	-	-	2,500 horses
London and North Western	-	19,000	„		
Midland	-	13,500	„		
Great Western	-	14,500	„		

The quantity of goods carried stands thus :—

Belgian	-	-	-	-	345 miles	645,501 tons
London and North Western	-	338	„			1,376,633 „
Midland	-	259½	„			881,973 „
Great Western	-	240½	„			209,563 „

The proportion on the Belgian standard is thus :—

Belgian	-	-	-	-	650,000 tons
London and North Western	-	1,400,000	„		
Midland	-	1,150,000	„		
Great Western	-	300,000	„		

The cattle traffic of 1844 stands thus :—

Belgian	-	-	-	345 miles	7,597 cattle	29,704 sheep, &c.
London & North Western	338	„	61,845	„	548,251	
Midland	-	-	259	„	18,488	„
Great Western	-	-	240½	„	14,058	„
					224,707	

These reduced to the same Belgian standard, stand thus :—

Belgian	-	-	-	-	7,500 cattle	30,000 sheep, &c
London and North Western	-	62,000	„	550,000	„	
Midland	-	25,000	„	230,000	„	
Great Western	-	20,000	„	310,000	„	

The proportion of traffic in 1845, taking the Belgian as the unit, stands thus :—

	1st Class.	2nd Class.	3rd Class.	Total Passengers.
Belgian	-	-	-	1
London and North Western	2½	1½	¾	1¼
Midland	-	-	-	1
Great Western	-	-	-	¾
Belgian	-	-	-	1 carriages 1 horses 1 cattle
London and North Western	3	7½	8	„
Midland	-	-	-	2 „ 5½ „ 8½ „
Great Western	-	-	-	2½ „ 5½ „ 3 „
Belgian	-	-	-	1 sheep 1 tons, goods
London & North Western	17	„	2	„
Midland	-	-	-	7½ „ 1½ „
Great Western	-	-	-	10 „ ½ „

The following shows the comparative traffic of each set of lines in 1844 and 1845 under the head of cattle :—

Belgian	-	-	-	-	12,691 in 1844	7,597 in 1845
London and North Western	-	-	-	-	58,687	„
Midland	-	-	-	-	22,480	„
Great Western	-	-	-	-	9,106	„
					14,058	„

These reduced to the same Belgian standard, are as follows :—

Belgian	-	-	-	-	12,700 in 1844	7,500 in 1845
London and North Western	-	-	-	-	60,000	„
Midland	-	-	-	-	36,000	„
Great Western	-	-	-	-	15,000	„

The following is the comparison of the sheep traffic in 1844 and 1845 :—

Belgian	-	-	-	-	39,056 in 1844	29,704 in 1845
London and North Western	-	-	-	-	516,142	„
Midland	-	-	-	-	101,163	„
Great Western	-	-	-	-	193,326	„
					224,707	„

These reduced to the same standard, are thus :—

Belgian	-	-	-	-	40,000 in 1844	30,000 in 1845
London and North Western	-	-	-	-	525,000	„
Midland	-	-	-	-	160,000	„
Great Western	-	-	-	-	260,000	„

The following is the comparison of the goods traffic in tons in 1844 and 1845 :—

Belgian	-	-	-	-	570,717 in 1844	645,501 in 1845
London and North Western	-	-	-	-	983,074	1,376,633
Midland	-	-	-	-	673,252	881,973
Great Western	-	-	-	-	129,283	209,563

These reduced to the same Belgian standard, are thus :—

Belgian	-	-	-	-	570,000 in 1844	650,000 in 1845
London and North Western	-	-	-	-	1,000,000	1,400,000
Midland	-	-	-	-	100,000	1,150,000
Great Western	-	-	-	-	210,000	300,000

Every item of English traffic has, it is seen, advanced in a larger proportion than the Belgian, and the proportion of traffic is unfavourable to the fact of the supposed superior development of the Belgian traffic.

The proportion of traffic in 1844 and 1845 taking the Belgian as the unit stands thus :—

		Belgian.	London and N. Western.	Midland	Great Western.
Goods, tons	1844	1	2	2	1½
„	1845	1	2	1½	½
Cattle	1844	1	5	3	1½
„	1845	1	8	3½	3
Sheep	1844	1	13	4	6½
„	1845	1	17	7½	10

The proportion of increase on each class of Belgian and London and North Western traffic in 1845, stands thus :—

Carriages, increase	350	Belgian increase	91	London & N. W.
Horses	340	„ decrease	—	„
Goods, tons	80,000	„ increase	400,000	„
Cattle, decrease	5,100	„	2,000	„
Sheep	10,000	„	25,000	„

The difference in favour of the London and North Western over the Belgian is this—

Goods	-	320,000 tons increase, or 400 per cent.
Cattle	-	7,100 „
Sheep	-	35,000 „

The increase of goods traffic on the London and North Western in 1845 is equal to two-thirds of the whole Belgian goods traffic.

The increase of cattle traffic on the London and North Western in 1845, as compared with the Belgian, is equal to the whole Belgian cattle traffic.

The increase of sheep traffic on the London and North Western in 1845, as compared with the Belgian, is equal to the whole Belgian sheep traffic.

The traffic in goods of the English lines in 1845, if reduced to the Belgian standard, would be thus—

	Lon. & N. Western.	Midland.	Great Western.
Belgian proportion	650,000	535,300	430,000 tons
Actual quantity carried	1,400,000	890,000	219,100 „
Decrease	-	750,000 tons	355,000 tons
Increase	-	-	220,000 tons

The traffic in cattle and sheep on the English lines in 1845, if carried on the Belgian system, would be still more cramped. The following example for sheep will be sufficient to prove this:—

	London & N. Western.	Midland.	Great Western
Belgian proportion	70,000	22,000	22,000
Quantity carried	550,000	171,000	224,000
Decrease	520,000 sheep	149,000 sheep	202,000 sheep

If the Belgian development of traffic prevailed here, there would be 220,000 tons of goods increase on the Great Western lines, where there is now no mineral or manufacturing traffic, but the following enormous decrease of traffic would be felt in those three districts alone:—

	London & N. Western.	Midland.	Great Western.	Total.
Goods, tons	750,000	355,000	„	885,000
Sheep	520,000	149,000	202,000	870,000

Thus were the Belgian system applied to this country an immediate falling off would ensue of nearly all the cattle traffic, and one-third of the goods traffic, or nearly a million of tons.

If comparisons were made with other English lines carried on upon a smaller scale than the three great amalgamations, or with the whole English traffic, the serious disadvantage and inefficiency of the Belgian system would be no less powerfully shown.

Whatever the *nominal* or *real* fare or rate may be supposed to be, the true test of efficiency is, as Mr. Hudson says, the development of traffic. That system which gives the greatest amount of traffic cannot be the dearest or the worst, whatever individual fares or rates may be.

No. 5.—COMPARISON OF ENGLISH AND BELGIAN FARES.

It is stated by the Morrison school that the average fares per mile stand thus:—

	England.	Belgium.
First class	2·60d.	1·48d.
Second class	1·86d.	·80d.
Third class	1·00d.	·60d.

It is therefore assumed that the wide difference between the fares arises from the extravagant profits and dividends of the English Companies, and from their fondness for keeping up high fares.

I would, in the first instance, observe that the average assumed is not of the least value, as it is a false average of the various fares on the English lines, whilst the uniform rate of the Belgian state lines is set against it.

The average of the first and second class English is made up of the express and ordinary fares, which have no correlation. The Great Western charge 3d. a mile first class for trains, which go fifty miles an hour, which does not admit of comparison with the Belgian fares and Belgian speed.

An average in an investigation of this kind is of no good, as the complaint of excessive fares has nothing to do with an average fare, but with the fares above the average.

A comparison of actual fares is, however, enough to show that the average is no criterion, because there are fares in England absolutely as low as the Belgian fares, and which cannot be matters of complaint, whatever ground of complaint there may be against those which are higher than the Belgian fares.

The Board of Trade returns for 1845, as the easiest of reference, though we may observe the fares are, in most cases, higher than the actual fares, and therefore more unfavourable to the English Companies.

	1st Class.		2nd Class.		3rd Class.	
	Exp.	Ord.	Exp.	Ord.	Ord.	Slow.
Arbroath -		1·92		1·45	1·	
Ardrossan -		2·		1·5	1·	
Brandling -		1·5		1·		
Whitstable -		1·				
Birkenhead -		2·		1·60	1·2	
Drogheda -		1·5		1·	0·5	
Kingstown -		2·		1·60	1·	
Dundee -	2·15	1·79	1·79	1·43	1·07	
Newtyle -		1·78		1·55	1·16	
Durh. & Sunder. -	(1)				0·61	
Eastern Counties -		2·25		1·74	1·	0·88
Ditto ditto -		2·94		2·27	1·64	1·
Ed. and Glasgow -		2·08		1·56	1·	0·65
Garnkirk -		0·93		0·60		
Glas. & Greenock -		1·37		0·85	0·57	0·28
Glasgow and Ayr -		1·87		1·25	0·87	
Grand Junction -	2·44	2·08		1·71	0·92	
Great Western -	2·83	2·74	1·77	1·60	1·	
Hull and Selby -		1·93		1·54	0·96	
Lond. and Birm. -	2·88	2·45		1·81	1·00	
Ditto ditto -		2·13		1·49		
Lon. & Croydon -		1·42		1·14	0·85	
L. & S. Western -	2·87	2·41		1·91	0·89	
Ditto ditto -		2·18		1·62		
Manch. & Birmin -	2·47	2·11		1·62	1·00	
Manch. & Leeds -		2·58		2·00	1·00	
Midland -		3·21		2·19	1·0	
South Eastern -	2·45	2·04		1·36	0·82	

Here is a varied class of accommodation, and with fares varying according to the traffic of the several districts. Those districts which have the largest traffic, have generally the lowest fares; and those which have the smallest traffic, have the highest fares. There can be no uniformity of fares between a populous level district and a thinly-peopled mountain country, while in the latter, the cost of construction will also be higher.

The English passenger is made to pay rates and taxes amounting to about 8 or 9 per cent., from which the Belgian passenger is free. To make a comparison is, however, completely futile, because the English trains travel at a higher rate of speed, and run more frequently, and the increase of expense on this account is enormous.

(1) Average of 1st and 2nd Class 0·91.

In the calculation of English fares the extreme fares are shown, whereas the actual fares paid by the majority of passengers are on day tickets, so that the fare paid by the majority of passengers is much below the rates given above.

The English traffic differs in every respect from that of Belgium, because it is to a great extent a through traffic, while in the latter country there has, until lately, been no through traffic.

As the expenses of each English line cannot be shown in detail, it will be sufficient to refer to very sufficient proofs of what is the real profit on an English fare and on a Belgian fare. That is, to take the whole traffic on the English railways, and the whole traffic on the Belgian railways, and compare the whole profit per passenger.

1844 -	3,381,529, Belgian.	27,763,602, English.
1845 -	3,470,680 ,,	33,791,253 ,,

The receipts for passengers were,

1844 -	£262,451, Belgian.	£3,439,294, English.
1845 -	£272,593 ,,	£3,976,341 ,,

The receipts for goods were,

1844 -	£187,769, Belgian.	£1,035,380, English.
1845 -	£223,535 ,,	£2,233,373 ,,

The total receipts were,

1844 -	£449,220, Belgian.	£5,074,674, English.
1845 -	£496,128 ,,	£6,209,714 ,,

The total profits, taking the *Edinburgh Review* calculation for the English lines, and the Belgian profit in 1845 at 50 per cent., is as follows:—

1844 -	£218,062, Belgian.	£2,943,310, English
1845 -	£248,064 ,,	£3,361,634, ,,

The proportion of English traffic in 1845, Belgian being taken as one, will therefore be,

Number of passengers	-	-	-	-	10
Receipts for passengers	-	-	-	-	14
Receipts for goods	-	-	-	-	10
Total receipts	-	-	-	-	12
Total profits	-	-	-	-	13

It appears, from these figures, that whereas the number of passengers in England is tenfold, and the receipts fourteen fold, the total profits are only thirteen fold, so that the difference between the English and Belgian charges is not caused by the profits, but chiefly by the extra expense caused by the higher rate of speed and accommodation, and the heavy rates and taxes.

As the income tax is chargeable on the net profit returns to the government, this must be deducted from the English profit.

The comparison of a Belgian fare per mile, and of an English fare per mile, will stand thus:—

	100 Belgian.	140 English.
Profit - - -	50	65
Less income tax - - -	-	2
Net profit - -	50	63

Brought forward	-	50 Belgian.	63 English.
Working charges	-	50 "	77 "
Excess of profit on English fare	-	50 : 63 = 13	
" working charges & taxes		50 : 77 = 27	
			—
			40

Assuming the English profits to be as stated by the *Edinburgh Reviewer*, and the rate of speed the same as the Belgian, and the lines exempt from taxation, the English fares would be to the Belgian as 113 to 100 or thus—

First class	-	1·66, English.	1·48, Belgian.
Second class	-	·90 "	·80 "
Third class	-	·67 "	·60 "

The difference between the English charges and the Belgian is therefore caused chiefly by the greater accommodation (which also requires a larger profit), and heavier accommodation; and the true average of charge is not as stated by the *Edinburgh Review* and the Morrisonians, but as follows—

First class	-	2·07, English.	1·48 Belgian.
Second class	-	1·12 "	0·80
Third class	-	6·84 "	0·60

The difference between the true average and the Morrisonian average is therefore six-tenths of a penny per mile, on the second class, ·74d. or nearly three farthings per mile; and on the third, ·16 or one-sixth of a penny per mile.

Instead of the difference between the Belgian and English first class fares being as stated by the Morrisonians, 1·16d. it is only ·59d.; and on the second class instead of 1·06d. it is only ·32d.; and on the third class instead of ·4d. it is only ·24d.

It is to be regretted that upon calculations such as those of the Morrisonian school, attempts should be made to run down the property of English companies, and to retard the development of the traffic and resources of the country.

The comparison of the proportion of the several classes of fares is also more favourable to English lines (on the assumption that third class traffic is a criterion) than is supposed, allowance being made for the influence of through traffic

First class	-	16·50, English.	11·54, Belgian
Second class	-	43·50, "	28·19, "
Third class	-	40·00, "	60·23, "
		—	—

100·

100·

The reason why English lines, notwithstanding their heavy cost of construction as compared with Belgian lines pay as well, is not on account of the higher rate of profit, but on account of there being nearly three times as much traffic on a mile of English railway, as on a mile of Belgian railway, and on account of the larger proportion of the first and second class, or through traffic.

In comparing English lines and Belgian lines, it must be remembered that a great deal of the cheap and slow traffic in England is carried by steamers, so that if this is taken into account, the extent of real third

class travelling in England is much larger than in Belgium. The greatest amount of third-class traffic in England is on those lines where there is no other accommodation by steam-boat or slow conveyance.

What is most remarkable in England is the vast extent of second class travelling showing the great accommodation afforded to the commercial community, and the vast means possessed by that important class to whom time is of such peculiar value.

On investigation, nothing can be more unsatisfactory than the state of Belgian traffic, so far from the fares being, to the greater part of the community, cheaper than the English fares, they are dearer, while the accommodation is much less. In fact so far from the Belgian system trenching upon the profits of English Companies, it would give them larger profits, provided they were allowed to do as the Belgian government has done, pick out the best parts of the country.

If Mr. Morrison or his school wish to have Belgian fares on the Great Western or London and Birmingham lines, he can do so, but I fear the English public will never consent to any such scheme, as it must be accompanied with Belgian accommodation.

We cannot, however, have Belgian fares and English speed. We cannot charge Belgian fares and travel on the Great Western. So far from its being the case, that the English first class fares are really higher than the Belgian first class, it will be found, on adding to the latter 27 per cent. (being the difference of working and taxation), and making no allowance for extra profit and greater locomotive power, that all the English fares are below the Belgian rates, except in districts of small traffic; while if the charge on the day tickets is taken, they are much below the Belgian rates. The Belgian fare is, in fact, equivalent to an English fare of 1·88d. per mile, on the first class.

The figures will, I trust, be the best vindication of the English companies from the accusation of making exorbitant charges, and receiving exorbitant profits. There are, of course, great differences between the charges of various English lines, but it will be found, taking them in detail, and in the aggregate that the charges are fairly proportioned to the traffic, and to the accommodation afforded.

No. 6.—EXTENT OF ACCOMMODATION.

The following is a rough account of the population of the chief countries in Europe, the number of miles of railway open, and the population per mile of railway open, brought as far as possible to the same rate, except that the English account is made to show results too unfavourable to it, and the other accounts are too favourable:—

France,	35,000,000 pop.	540 miles open.	65,000 pop. per mile.
Austria,	35,000,000 "	700 "	50,000 "
England,	16,000,000 "	3,200 "	5,000 "
Prussia,	14,000,000 "	700 "	20,000 "
Bavaria,	4,800,000 "	160 "	3,000 "
Belgium,	4,500,000 "	400 "	12,000 "

These may also be arranged in the following order:—

England!,* 16,000,000 pop. 3,800 miles open. 5,000 pop. per mile.

* The English rail is chiefly double, the rail in the other countries, chiefly single, which gives a further advantage to England on the head of accommodation.

Belgium, 4,500,000 pop.	400 miles open.	12,000 pop. per mile.
Prussia, 14,000,000 „	700 „	20,000 „
Bavaria, 4,800,000 „	160 „	30,000 „
Austria, 35,000,000 „	700 „	50,000 „
France, 35,000,000 „	540 „	65,000 „

The above table will show the fallacy of the comparison of single rates of Belgian and English fares, though we have rates on some lines as low as those on the Belgian lines, for it is evident, that if the English lines charged double, they would still give the same aggregate accommodation as the Belgian lines.

If England carries double her population in a year, or 32,000,000 of passengers, Belgium should carry similarly, or 9,000,000; she carries 3,300,000, so that the extent of accommodation on the English lines, in the number of passengers, is nearly three times that of the Belgian lines. The English passengers are also carried at a higher speed. The conclusion therefore is, notwithstanding the alleged higher fares of the English lines, and their abridged accommodation for third class passengers, that the English system is the right one.

The following is a comparison of the number of passengers which would be carried by the English lines if they were only of the same extent as the foreign lines.

By the Belgian plan	-	16,000,000	24,000,000	Deficiency.
„ Prussian	-	10,000,000	30,000,000	
„ Bavarian	-	6,600,000	33,800,000	
„ Austrian	-	4,000,000	36,000,000	
„ French	-	3,000,000	37,000,000	

Nothing can be more contrary to reason and facts than the arguments of the Morrisonian school with regard to railway management. If we were upon the level of France, it seems that we should be now carrying about 3,000,000 of passengers per annum, and though the average first class fare would have been only 16-10ths of a penny per mile, instead of 26-10ths, England, while gaining this trumpery difference on 3,000,000 of passengers, would have lost the large aggregate saving on 40,000,000 of passengers, besides goods in proportion.

No. 7.—PRIVATE COMPANIES.

It will be seen from the above remarks how inefficient the Belgian government is for the development of traffic, and in the same manner as the Dutch Rhenish Company, in Holland, has already improved on the government plans, there can be no doubt that the energy and enterprise of the private companies in Belgium, will at once reap a harvest from the domain of traffic neglected by the government.

The private lines will be worked with more intelligence, and provided with greater accommodation, and with the basis of traffic already existing in Belgium there is no reason why the companies should have less profits than the London and North Western, Midland or Great Western.

PRACTICAL AND THEORETICAL CONSIDERATIONS ON
THE MANAGEMENT OF RAILWAYS IN INDIA.

BY HYDE CLARKE, Esq.

As the period approaches when the construction of railways in India will receive legislative sanction, and the companies commence active operations, there is a growing desire for information as to the mode in which they are likely to work. This desire extends equally to shareholders and officials, and many of the most influential among the latter have requested that something should be published on the subject in a distinct form, to serve as a groundwork on which subsequent investigations can be conducted. Those who know the hard work to which the managers of our Indian railways have been subjected, both at home and abroad, during the early operations, are aware that they have neither leisure nor opportunity to undertake a task of this kind. They have, as was their duty, collected a mass of most valuable information—indeed all the information required—but its digestion and application involve minute and tedious application, which, from the pressure of their other duties at this important crisis, it would be unfair to call upon them to bestow.

To attempt to give precise and definite outlines to operations which must be regulated by experiment and experience, would be worse than useless ; it would be mischievous, because it would have the tendency to divert attention from the right mode of proceeding. It would be futile to establish a rate of charge or an amount of dividend, experience in this country ought to be sufficient to deter us from any such speculations ; but there is a practical and useful career of investigation open to us, which will enable us to determine in general results, without committing ourselves to details, whether investment in India can be successfully conducted, whether there is a basis of traffic, and whether there is a prospect and probability of profit. We cannot determine whether the whole of ten articles will be carried legally, but we may be able to bring it within the scope of certainty that a large proportion of the sum total will be carried by railway, and that is quite sufficient for all practical purposes.

What will be attempted in these papers is of a moderate and modest character, rather to put the materials in a form for the further investigation and determination of others, than to establish any definite or absolute conclusions. To claim more than this would be, in reality, an imposition on the judgment of the reader ; and though it might gratify the longing which is always felt for steady and settled results, it would be at the hazard of incurring subsequent disappointment and distrust. To anticipate on the future is a human merit, as much as it is a human foible, for without it, even if we had more contentment, we should be wanting in enterprise, assiduity, and perseverance—the soul of England, of its wealth, and of its might. We should want the courage to embark in Indian railways, unless we could look a little forward, and with some degree of dependence on the future ; and assuredly, after all, he must be the greater man, and they must be the greater people, who can look on the future, as well as on the present and the past—who can

extend empire by extending the dominion of the mind. But to drop from this to a lower level, were Indian railways likely to turn out as heavy a loss as they are likely to prove a great gain, it would show more courage, and add more to the strength and wealth of the country, to have the spirit to undertake them, than the apathy to decline. Still it is better to have a prudent appetite for enterprise, than a rash ardour for venture; and though we cannot arrive at an accurate determination of the future of Indian railways, we need not be deterred from a competent investigation.

This investigation will require much time in collecting and preparing the materials, and considerable space for their publication; and the writer has been, as already stated, asked to undertake the task, in consequence of possessing the facilities for its execution, and having, by the production of the "Contributions to Railway Statistics," devoted his attention to the practical development of traffic in England. This desire has been complied with by him, on the assurance that every aid should be given in furnishing the necessary information on what relates to the Indian part of the subject.

What has to be done is to apply the practical experience of this country to the present condition of India, in such a manner as to determine what will be the results from the introduction of the railway system. This cannot be done sufficiently to define the precise outline of future operations, but it can be effected so as to give us their general form.

NO. 1.—INVESTMENT.

Investment in India is looked upon with alarm in some quarters, as likely to draw on the money market of this country, because it will require the application of large sums of money.

The first answer to this is, that no drain can take place under any circumstances before the end of the year 1848, for whatever works are carried on in India in 1847 must begin on a small scale, for the purpose of organising the system of construction. Although the rough labour is there, it cannot be instantaneously applied, but will require some time for organisation in its new form. In this country there is a deficiency of navigators, and in France the railway works had to be begun with English navigators, and even now Irish navigators can earn five francs per day there, while the French only earn three francs and a half. Many Indian officers think they can begin and carry out railways at once, but others, more cautious and more experienced, require time to organise a staff and a body of labourers. From this very circumstance of organisation, it is probable that the first sections of Indian railways will cost more than the after sections, because labour will be less efficient, and less energetic.

It is also desirable to begin only a small section in each case, as it will be necessary and useful, as in this country, to have only a small section opened for the purpose of training the working staff, and not with a view to traffic.

The commencement of Indian railways cannot press on the English money market in the first instance; that it will do so at any period, appears very unlikely, from what we know of the operations of railway investment in this country. It is now admitted by all practical men, that no pres-

sure has taken place in this country from the operations of railway construction, and this is partly effected by "the transfer of capital," and by the increased energy of existing means of labour.¹ In India circumstances are, of course, in some degree different, but the general laws of investment will also be found to act there, so far as the internal operations of capital are concerned. With regard to the supply of capital, to keep the operations going, we have a practical example in our French investments, which have yielded us a large profit, without affecting our home operations.

Although it is now supposed that very little capital will be supplied from India, yet in the long run the whole capital will be supplied from that country, and the application of the capital of this country will be only in the nature of a temporary loan, from which, however, we shall derive a large annuity from the surplus profits realised. We shall, in the first instance, have to supply capital to set the machinery of investment in action, and the question is whether that will require the transmission of specie from this country. The answer is—decidedly not.

The Hindoo labourers, who will be employed as navigators, will require to be fed and clothed, but not with specie; they will be fed with rice, and clothed with cotton. The food is of Indian growth, and the only contingency under which specie might be supposed to be required to purchase rice, would be in case the production of India was not sufficient, and it would be necessary to import it from abroad. Even then it would, however, be probably purchased with English manufactures. If increased food is required for the Hindoo navigators, it will be supplied by the increased production of India, and the stimulus which will be applied, and the capital which will be applied, will be to the agriculture of India. This stimulus will not be in the shape of specie, but in that of English manufactured goods; for supposing specie to be temporarily required, it would be only for the adjustment of the transactions, and would soon return into circulation. The real operation, after all, is to make the Hindoos form the railways, and enable us to reap a large portion of the profits.

No careful thinker can avoid coming to the conclusion, that the excitement of railway construction in India will, of itself, cause an increased demand for English goods, so that at each step one operation will be found harmonising and co-operating with another, like a well planned and highly finished train of wheelwork.

Already the consumption of our goods by India is on a large scale, and the imports, into Bengal alone, amount to somewhere about £5,000,000 a year, the exports being of a larger amount.

Among the articles taken are the following² :—

Cotton goods	-	-	-	-	-	£1,872,337
Cotton twist	-	..	-	-	-	826,396
Copper	-	-	-	-	-	389,779
Iron and other metals	-	-	-	-	-	553,975
Wool, silk, and leather	-	-	-	-	-	474,576

It is very easy to conceive an increase of £3,000,000 a year in our exports to India, which in a few years would constitute a large capital, if it were required.

¹ Theory of Railway Investment. By Hyde Clarke, Esq.

² Wilkinson's Commercial Annual for 1844-5.—Calcutta.

We also receive large remittances from India on account of dividends on India stock, pensions, profits, &c., &c.; a reserve on this head will go to the accumulation of railway capital in India, without requiring the exportation of specie from this country.

So far from there being any fear that this country will be embarrassed by the demand for the export of bullion and specie to India for railway purposes, that country is the very last which can require anything of the kind.

The grand feature of Indian railways, as a financial operation for England, is that it admits of the realization of a large profit, with a very small outlay of capital, by the development of the resources of India.

In the early stages of Indian enterprise, there will be an accumulation of profit by contractors and workmen, and by tradesmen dealing with them, and this will constitute a capital seeking investment, which will come into the railway market; and which, in obedience to the laws regulating these operations, will be attended with profit to English investors. The "transfer of capital," which takes place in the purchase of stone, lime, bricks, timber, and materials, will also constitute an Indian contribution towards railway investment. The profits of the merchants and retailers on the increased exports of English manufactures, will form a further portion of Indian railway capital.

In a subsequent stage of railway proceedings, when larger operations are carried on, and more capital will be required, the development of railway traffic will in India, as here, have effected a large economy of production, and will have stimulated an increase of production, so as to supply new resources. In India a great deal will be done by the distribution of the varied resources of the country, the productions of one part being made to supply the deficiencies of another, and new production being thus facilitated, where before it was impossible. Vegetable produce which, if now raised, must rot before it can be brought to market, will now be made available. Manufactories which were impossible, will be practicable—the sphere of enterprise will be enlarged, the reward of exertions will be increased, and with the addition to the working power of the country, of the vast engine of railway tractions, it cannot be doubted that its wealth and capabilities will be enormously above the present standard.

NO. 2.—PRINCIPLES OF TRAFFIC.

The first thing to look to in India is the goods traffic, because, taking the country generally, that must be the traffic most available, and the basis of all other traffic.

It is generally supposed, that goods are carried very cheaply in India by native means, and that remunerative rates cannot be obtained.

It must be first observed, that price is only one element to be considered in the establishment of railway traffic. We must include—

Price or Fare.

Safety.

Time.

Each of the latter, although not nominally included in the railway or

river fare, really make parts of it ; indeed, the most important detail of conveyance may be the safety or the time. Thus fruit and fish can only be carried at all if carried rapidly, while articles not merely delicate, like cotton or hops, but hardy like timber and coal, can be more safely carried by railway. Some articles of small cost can only be carried at a very small cost, but then they must be such articles as are not susceptible of any influence under the head of safety, or time in conveyance. It may, consequently, be worth, notwithstanding a river rate may be one penny per mile, to pay twopence per mile by railway, if a penny each be the effective charge under the heads of price, safety, and time.

NO. 3.—INFLUENCE OF TIME UPON RATES OF GOODS.

Time may, perhaps, be most appropriately considered first in its operations. A saving in time by railway conveyance is, of course, the effect of a higher rate of speed than by either land or water conveyance. This saving of time resolves itself into four heads—

1. Saving of interest.
2. Saving of market.
3. Saving of quality.
4. Saving of stock.

The third, perhaps partly or wholly, belongs to saving under the head of safety.

Saving of interest is not merely concerned in the time of transit, but also in the time at which goods ought to be sent, but cannot be despatched for want of conveyances. Thus, although the saving of interest on the mere transit of a ton of goods by the quicker railway conveyance, may be only on a fortnight, yet the saving of interest by the earlier despatch may be three months, or more. With the river conveyance of India, delays are felt from want of water at particular seasons (as on our canals), by the strength of the currents, in the rains, and by the periodical monsoons.¹ In the case of the coal of Burdwan, the owners are unable to bring the coal down a direct distance of seventy-five miles in less than two seasons, by the circuitous route of the river Damooda.² The boats can come from Ompta to the mines only in July, August, and September, and what has been dug during the whole year must remain at the ghat till those months.³ In the case of coal, a loss of nine months interest may take place, which will be equivalent to $7\frac{1}{2}$ per cent., at the rate of 10 per cent. per annum, because we must take a high rate in India. In the case of the whole river traffic, from Calcutta to the up country, the only passable channel for boats drawing five foot water during nine months of the year, the smaller channels being closed, is by a circuitous route of 528 miles, instead of 200, through a perilous labyrinth of creeks and wood, encumbered straits, forming the wilderness called the Sunderbunds.⁴ From this, great delay necessarily arises. Thus thirty days s sometimes required for the passage from Calcutta to Rajmahl.⁵ Be-

¹ Allen, Deffell, and Co., in Report of R. Macdonald Stephenson, Esq., p. 30.

² W. Theobald, Esq., in Report of Macdonald Stephenson, p. 53.

³ Report of Macdonald Stephenson, p. 59.

⁴ Macdonald Stephenson, p. 16, and Report of General Macleod, quoted by the Old Postmaster, p. 74.

⁵ *Calcutta Review*.

tween Calcutta and Mirzapore the length of passage is six weeks by water, and seven weeks by land.¹ The steamers sometimes occupy thirty-six days in going from Calcutta to Allahabad, although the voyage is occasionally eighteen days. From Calcutta to Mirzapore, the water conveyance requires from six weeks to two months.² Some furniture sent from Calcutta to Benares occupied ten weeks in transit. Notwithstanding the advantages of steam freight on the Ganges, this means of transit is so restricted, that downward freight was this year engaged in all the steamers for two months in advance. This must necessarily be added, to ascertain the loss of interest to the time occupied in the transit. In the Bombay territories, the evils are quite as great. Mr. Fenwick³ states, that from want of water and forage on the road, owing to the scanty preceding monsoon, a large quantity of the cotton from Berar could not be carried to Bombay, and was then lying on the road. This happens every year, more or less. In 1843 Messrs. Fenwick engaged with a house in Bombay to deliver 5,000 loads of cotton by the end of May, or before the setting in of the monsoon. That year the roads became impassable by rains for days together, and although carts were engaged at a high price, they could not perform their engagement. Out of the 5,000 loads, 2,000 were dropped on the road; some they managed, by great exertion, to push on to Kutchlee-bunder, but it arrived too late to be boated across the bay, and being housed, it was, by accident, burned, in October. In 1846, above 20,000 loads of cotton were left behind in that part of Berar.

The saving of interest will also accrue, partly under the fourth head, in consequence of a less quantity of goods being required to be kept in store. There is also a saving of interest on the time at which the freight is paid.

The saving of interest under various heads will frequently amount to $7\frac{1}{2}$ per cent., and will afford considerable compensation for an increased railway fare.

The following will show the amount of this saving per ton, at various rates, and the equivalent distance in miles, at one penny per mile, which might be traversed by railway:—

Interest taken at $7\frac{1}{2}$ per cent. rate of saving on a ton of goods of various values with the equivalent number of miles at 1d.

£100 value £7 10 0 saving, 1,800 miles run.

50	„	3 15 0	„	900	„
20	„	1 10 0	„	360	„
10	„	0 15 0	„	180	„
5	„	0 7 6	„	90	„
1	„	1 1 6	„	18	„

Interest taken at 5 per cent.

£100 value £5 0 0 saving, 1,200 miles run.

50	„	2 10 0	„	600	„
20	„	1 0 0	„	240	„
10	„	0 10 0	„	120	„
5	„	0 5 0	„	60	„
1	„	0 1 0	„	12	„

¹ Report of Macdonald Stephenson, p. 17.

² M. Rustomjee, in Report of Macdonald Stephenson, p. 69.

³ Report of Mr. Chapman, E p. 29.

Interest taken at $2\frac{1}{2}$ per cent.

£100 value	£2 10 0 saving,	600 miles run.
50	1 5 0	300
20	0 10 0	120
10	0 2 6	60
5	0 2 6	30
1	0 0 6	6

Upon coal, the saving of interest at $7\frac{1}{2}$ per cent. would allow of its being conveyed eighteen miles further at 1d. per mile per ton; at 5 per cent. of being conveyed twelve miles further; and at $2\frac{1}{2}$ per cent. of being conveyed six miles further. This operates so far to extend the range of market and supply.

Upon such articles as sugar and cotton, the range of supply at the rate of 2d. per ton per mile for conveyance would be occasionally extended forty or fifty miles, a most important result.

The saving of market is indeed a very great advantage, which will give a large compensation for a difference of fare. This will at home cause a very large and sudden influx of traffic on railways in the shape of grain, cattle and agricultural produce, a rise in a particular market being sufficient to draw a large amount of supplies. Upon indigo this will tell very powerfully, but it will extend to all classes of produce whether cotton or sugar.¹ Silks and cashmeres exported to the extent £1,400,000 a-year from Calcutta, would on a market rise of 5 per cent. afford a large revenue to the railways. Of indigo the value for export from Calcutta is £2,500,000 per annum. If a rise of only 1 per cent. took place this might bring into the market half a million in value, which dividing half the profit with the railways, would allow of an increased railway income of £2,500. Whenever the market price of any article rises above a certain point it will be carried by railway, because railway conveyance is the only certain mode of conveying the produce.

The saving of quality resulting from quicker conveyance is one which particularly affects many articles of production, and determines the question of their railway conveyance. In this country fish, milk, butter, meat, fruit, and vegetables are carried by railway, because only in that way can they be brought to market in a saleable condition. In India this will affect many articles of consumption, because commodities which perish or become deteriorated in two or three days, cannot even be carried by steam-boats, which require two or three weeks or more for the transit.

Fruit and vegetables will be carried in India as here. Fresh oils, ghee, honey, molasses, will benefit by being brought into the market in a fresh state. Ice can be carried by railway only. This is an important article of consumption in India, and a necessary of life. Ice in Calcutta may be had abundantly at 1½d. per lb. At Barrackpore, sixteen miles from Calcutta, the yearly cost of conveyance alone for one family will not be less than £7 or £8, so that the price is much enhanced. At Madras large imports take place of articles in which freshness is of value, as ghee to the extent 993 tons, oil 1,978 tons, tamarinds 1,912 tons, jaghery 677 tons.²

Many articles of fashion fetch a higher price when they can be

¹ Capt. Goodwyn in Report of Macdonald Stephenson, p. 38.

² Papers relating to the Madras Railway Company, p. 84.

brought into the market earlier. The import of millinery, haberdashery, and apparel into Calcutta in 1844-5 was £210,440,¹ besides hosiery and gloves £17,580, hats and caps £7,614, perfumery £27,117. This is exclusive of silks, printed cottons and woollens, in many of which novelty is a merit. Books and periodicals are wanted at the earliest moment after publication, and the consumption in India is already large. At Calcutta the imports were in 1844-5, books and pamphlets £27,147, stationery £43,696. In everything which constitutes parcels, traffic expedition is a chief element. Even now the native merchants take advantage of the overland steam route for new goods.

A saving of stock is another effect of the less time required in railway transit. It will, with the advantages of railway accommodation, be less necessary for the merchant or the government to keep up large stores to meet the present irregular and uncertain transit. At present the merchant feels the inconvenience of holding back produce, and forming large stocks at particular seasons.² To this an allusion has also been made under the head of interest.

All these influences of time resulting from the higher speed of railways, whether of saving in interest on several heads, market price, quality and stock may in some cases be combined, when, if the article to be carried is of large value, the railway will have very great facilities for charging a higher fare than by other modes of conveyance, if such higher fare be necessary for remuneration.

Perhaps under this head should have been noticed the ill effects which are now felt from the uncertainty of the arrival of goods³ when in transit by the defective modes of conveyance by bullocks, carts, and native boats.

NO. 4.—SAFETY OF CONVEYANCE AS AN ELEMENT OF RATES OF GOODS.

The effects of safety of conveyance as influencing railway traffic will, perhaps, be more sensibly felt in India than even in England. Upon this many of the local authorities place great dependence as a certain cause of drawing traffic to the lines of railway, in whatever class of produce the merchant may be interested, whether cotton, sugar, or indigo, the uncertainty of the present mode of conveyance, a circumstance which cannot fail to impress him with the necessity and value of some more efficient machinery of transit. Safety on railways may conveniently be considered under the following heads:—

1. Safety from wet and mud.
2. Safety from heat.
3. Safety from wreck.
4. Safety from robbery.

The evidence is strong that cotton, sugar, saltpetre, salt, grain, and pulse suffer at present from exposure to the wet in the native boats and carts. General Briggs⁴ states that if a caravan of bullocks, carrying cotton, be overtaken with rain, the cotton becoming saturated with moisture is so heavy as to prevent its transport on the cattle, and the roads, if lying through the cotton ground, are so deep that men even sink above their ankles at every step, and cattle up to their knees, and wet

¹ Wilkinson's Calcutta Commercial Annual, p. 16.

² W. Wildman Kettlewell, of Leach & Co.'s, in Report of Macdonald Stephenson, p. 29. Colonel Warren, C.B., in the same, p. 37.

³ Capt. Goodwyn, in Report of Macdonald Stephenson, p. 38.

⁴ Cotton Trade of India. By Major General Briggs, 1840.

frequently reduces the speed on the roads to a mile an hour, and thus the cotton is spoiled. Captain Waugh,¹ Surveyor General of India, particularly alludes to the deterioration of cotton by exposure on the road.

Mr. Fenwick² gives his testimony to the way in which cotton is thus injured in the Bombay presidency.

Sugar, says Mr. Kettlewell,³ is now sent on the Ganges in small boats, at a high cost, and generally arrives more or less damaged. This, in his opinion, would all go by railway.

Timber is now floated down the rivers, and exposed to the injuries of wet and of destructive insects. All superior kinds of timber for durable or expensive purposes, would therefore be carried by railway.

Metals also suffer by wet and rust during an exposure of two or three months on the river Ganges, in crazy and leaky native boats, and on all articles increased expense for packing accrues.

Military stores decay by exposure to the climate, and a considerable saving is expected from diminished exposure, and from less quantities being stored.⁴

Exposure to heat does not affect traffic so extensively as wet, but it is felt on particular articles. Fruits, vegetables, and vegetable juices will be carried more advantageously by railway, so will ice. This head has a near connection with that of the saving effected by superior speed and less time in the conveyance of produce to market.

Safety from wreck will be experienced in all traffic removed from the river navigation of India to the railway, and for which heavy insurance is now paid. Between Calcutta and Rajmahl, 200 miles, the rate of insurance is as high as between Calcutta and England.⁵ The desirability of saving of insurance, on the Ganges, is felt both by English and natives.⁶ On some furniture sent from Calcutta to Benares, valued at 100*l.*, the insurance paid was 3*l.* Such articles as coals suffer from wreck. On the river Damooda, one house lost three out of eleven lacs of maunds of Burdwan coals in one year, from the boats having sunk, and the late Dwarkanauth Tagore calculated the average loss as large.⁷

Safety from robbery is a suggestion proceeding from local parties. All articles of produce are plundered largely by river and land transit. On the large rivers, as the Ganges, organised gangs of pirates attack the native boats, and insurance does not protect against these losses, only against wreck. Speaking of the land route, Mr. Fenwick⁸ says, "It may be necessary to state, that the most vexatious and forbidding circumstance attending the traffic between the interior and Bombay, is the loss sustained by the dealers during the transit of their goods. Cotton is eaten up by the bullocks, by mouthfulls, out of the bales. The Brinjarras (bullock drivers) and cartmen themselves, steal largely, and the whole of the loss is never made up by them on arrival at the Bunder." Of the boatmen, he says—"A good deal of cotton is stolen and made away with by the boatmen who man the purrows conveying it

¹ Report of Macdonald Stephenson, p. 41.

² Report of Mr. Chapman, E. p. 41.

³ Report of Macdonald Stephenson, p. 29.

⁴ Colonel Warren, C.B., in Macdonald Stephenson's Report, p. 37.

⁵ *Calcutta Review*.

⁶ W. W. Kettlewell, in Report of Macdonald Stephenson, p. 29 ; Allan, Deffell and Co., in same, p. 30 ; Report, p. 63.

⁷ Report of Macdonald Stephenson, p. 53 ; and Dwarkanauth Tagore, in the same, p. 53.

⁸ Report of Mr. Chapman, E. p. 10.

from the Bunder to Bombay. Canoes and small boats come alongside, under one pretence or another, and receive the bundles previously prepared and secreted. We have had our own peons guarding the bales in the boats, but still have discovered, in the end, that we have been robbed. On railway trains this would not happen."¹ Coal is also mentioned by Dwarkanauth Tagore,² as exposed to robbery.

The extent of loss by the present mode of conveyance is evidently very great. General Briggs, Mr. Fenwick, and Dwarkanauth Tagore make a large estimate of loss. The latter takes the average loss on Burdwan coal at 20 per cent., and there can be no doubt that on many articles it reaches to that extent.

On low priced articles, safety from loss will afford a considerable equivalent for fare. It will be observed, that loss attaches not only to the original cost of the article, but also to a portion of the freight. The proportion of damage to a ton of goods of various value at 20, 10, and 5 per cent., is estimated below, with the equivalent mileage saved at one penny per mile.

Damage taken at 20 per cent.			
£20	value	£4 0	saving 960 miles run.
10	"	2 0	" 480 "
5	"	1 0	" 240 "
2	"	8	" 96 "
1	"	4	" 48 "
Damage taken at 10 per cent.			
£20	value	£2 0	saving 480 miles run.
10	"	1 0	" 240 "
5	"	10	" 120 "
2	"	5	" 48 "
1	"	2	" 24 "
Damage taken at 5 per cent.			
£20	value	£1 0	saving 240 miles run.
10	"	10	" 120 "
5	"	5	" 60 "
2	"	2	" 24 "
1	"	1	" 12 "

On Burdwan coals the loss of interest and damage may be taken as equivalent to 3s. 6d. per ton, or to a total mileage of sixty-six miles, at one penny per ton per mile.

On sugar damage and interest may be taken as equivalent to the carriage of a ton ninety-six miles, at threepence per mile.

On cotton damage and interest may be taken as equivalent to the carriage of a ton 200 miles, at threepence per mile.

These calculations are irrespective of any advantage under the head of market price, and exclusive of the present native rates of conveyance. The figures only represent the bonus given by railway conveyance, under the head of interest and safety.

It is to be noticed, as an important principle in the estimation of the superiority of railway traffic, that the influence of time and safety will be, to a great extent, proportional, and will be felt most on those objects carried the greatest distance, and least on those carried the shortest distance, and that their action is favourable to through traffic.

¹ This is confirmed by Captain Goodwyn. Report of Macdonald Stephenson, p. 33, and also as to indigo.

² Report of Macdonald Stephenson, p. 53.

RAILWAY ANATOMY.

FORM OF THE RAILS—PRINCIPLES BY WHICH IT IS DETERMINED.

THE linear construction of every one of the many parts composing a railway, is the result of some positive mathematical principles which are applied to each of them, according to its special object. Geometry presides in the construction of the permanent supports of the way and its accessories: tunnels, bridges, viaducts, cuttings, embankments are made according to geometrical principles. The observation of these principles, together with geological experience and knowledge of the strength of materials, are the best basis for the sound and secure construction of those important works.

Geometry is again a guide for the proportions to be given to the various parts of the moveable pieces. The form of those parts is more specially of the dominion of mechanics: we find in mechanics what are the most proper lines to be described by a body performing a known motion, which contrivance will give more speed, less resistance, what is the best form of axles of wheels, the best construction of the surface upon which the wheels meet with the rails.

From natural philosophy is taken the knowledge of the special properties of the moving agent; and it is according to these properties that the moving apparatus is constructed. A locomotive engine is the special application to railways of the properties of steam.

The construction of a railway is thus regulated by three different orders of laws—those of geometry for the permanent work, the body of it; those of mechanics for the moveable parts; those of natural philosophy for the moving principle. A good or perfect railway is the result of the simultaneous and well-concording observation of these laws in every one of its parts.

England has seen more railways built than any other country. For nearly fifty years practical experiments, extensive constructions, have improved their making, and the principles actually applied are the result of long and serious trials. There are, still, few books on railways; the men who constructed railways did not express their ideas in academical speeches, they wrote them in stone and iron, and whatever be their motive in keeping private the results of their experience, this is perhaps the reason why sometimes an opinion is expressed, that these practical constructions are not justified by theory, that such or such form or such part is contrary, as actually constructed, to the rules of mathematics.

It would be void of sense to assert that the present construction of railways has attained the ideal of perfection; that no improvements will take place in railways. Great improvements have been, and will be introduced, but still there are some parts of them for which the experience of ages has been used, which have been the result of long and positive trials, and if the public attention must always be directed to improvements and new ideas, there is a feeling of confidence and respect for the authors of so many stupendous works, which must require strong proofs before they are judged wrong.

It is only from positive facts, from experience, that mathematics can

be applied to any art or science, and this application seems much more creditable when made by those who are experienced, than by any creator of new systems.

Let us then anatomize the various limbs of this vast body—find under its actual appearance the skeleton which supports it, the muscles by which it acts. Let us see whether every one of them is conformable to the rules which are determined by mathematics. Tunnels, viaducts, bridges, &c. are only ordinary works of architecture, of which we find examples in all the ages of the world. Their present application to railways has caused them to be built on a larger scale; but the principle of their construction has little varied, and a more extensive employ of iron is the only new feature presented by this part of railway engineering. The rails form one of the special parts of railways. Their form, their strength, the manner in which they must be laid down, are so many questions quite new and unprecedented; and we shall first see how these questions have been answered in the existing lines.

The object of rails is of a double nature. First, support the train passing over them; second, present to the wheel which passes upon them the surface the best adapted to locomotion.

It is evident that geometry will direct the engineer in fulfilling the first part of the object of rails, by showing to him how to dispose the greatest quantity of material in the direction of the greatest strain. This is the reason why, in all the different forms of rails, the greatest quantity of material is disposed vertically,—the weight of the train coming on the rail in vertical direction,—and the strength of a bar of iron submitted to a perpendicular strain, being measured by its width multiplied by the square of its depth. It is, therefore, a wise and right construction for a rail to have a greater quantity of material disposed perpendicularly; and this principle is the very principle of the geometrical construction of the rail employed on the Great Western.

Which is the form to be given to that part of the rail which comes in contact with the wheel?

This question is evidently a question of mechanics. The wheel is a moving body, and the form required will be that by which the least portion of the motion of this body will be absorbed.

To show positively which is this form, and what are the principles which determine it, we must consider what is the action of a wheel, and what difference in this action can produce such or such forms of rail applied to it.

N. A. BURNIER.

London, November 18.

(To be continued.)

THE
GROSS RECEIPTS OF RAILWAY TRAFFIC,
FOR
THE LAST WEEK OF OCT. AND THE THREE FIRST WEEKS OF NOV.

Total amount authorized to be raised.	Total amount already expended.	Last Dividend.		NAME OF RAILWAY.	Oct. last week.	Nov. first week.	Nov. second week.	Nov. third week.
		Per share.	Per cent. per ann.					
£	£	£ s. d.	£ s. d.		£	£	£	£
160,000	140,203	—	5 0 0	Arbroath and Forfar	187	217	286	208
1,441,163	1,527,207	0 0 0	6 0 0	Birmingham and Gloucester ..	....	....	....	....
—	667,823	{ 20s. }	4 0 0	Bristol and Gloucester .....	....	....	....	....
800,000	658,000	{ 12s. }	2 12 0	Chester and Birkenhead	483	520	624	516
—	—	{ 13s. }	—	—	—	—	—	—
—	—	{ 6s.6d. }	—	—	—	—	—	—
600,000	600,000	1 4 0	4 9 0	Dublin and Drogheda	769	750	772	707
337,000	349,736	0 5 0	9 0 0	Dublin and Kingstown	825	1,456	893	696
200,000	153,598	3 0 0	6 0 0	Dundee and Arbroath	284	351	282	256
362,000	302,118	0 10 0	2 0 0	Durham and Sunderland	652	687	....	662
5,000,000	4,965,000	{ E 9s. }	—	Eastern Counties and Northern	—	—	—	—
—	—	{ N. 5s. }	—	and Eastern	9,551	9,509	9,152	8,656
—	—	{ 30½s. }	—	—	—	—	—	—
266,666	227,253	—	—	East Lancashire .....	....	....	819	761
2,300,000	2,112,000	1 10 0	6 0 0	Eastern Union	427	418	439	408
—	—	—	—	Edinburgh and Glasgow	3,769	3,714	3,863	3,836
1,453,900	1,104,773	1 15 0	7 0 0	Glasgow, Paisley, and Avr	2,414	2,116	2,105	2,154
866,666	806,134	0 5 0	2 0 0	Glasgow, Paisley and Greenock ..	1,006	923	902	940
2,364,333	2,507,317	5 0 0	10 0 0	Grand Junction, amalg. with London & Nt. Western	....	....	....	....
1,600,000	673,540	—	—	Great Southern and Western ..	951	962	980	954
8,160,000	8,750,000	3 4 0	8 0 0	Great Western	18,560	18,588	17,580	16,704
689,000	400,000	—	8 0 0	Hartlepool, amal. with York & Newcastle	....	....	....	....
—	701,740	1 10 0	6 0 0	Hull and Selby, amal. with York & Nt. Midland	....	....	....	....
2,637,375	1,774,531	5 0 0	10 0 0	Liverpool and Man., amal. with Bir. Res. imper.	....	....	....	....
22,990,000	16,300,000	5 0 0	10 0 0	London and North Western	39,349	39,098	38,180	35,654
1,665,000	1,078,761	0 2 6	1 10 0	London and Blackwall	885	795	829	793
5,400,000	4,700,000	1 4 6	5 0 0	London, Brighton and South Coast	8,032	7,639	7,774	7,028
—	—	—	—	—	—	—	—	—
921,333	842,592	0 7 0	3 10 0	London and Croydon amal with London & Brightn. and South Coast	....	....	....	....
2,770,000	2,620,724	2 2 6	10 4 10	London and South Western	6,557	6,231	6,438	6,042
2,893,000	2,107,585	1 3 10½	6 2 4	Manchester & Birmingham amal with Lon & N. West	....	....	....	....
4,743,333	3,372,240	2 18 0	8 0 0	Manchester and Leeds	9,152	8,992	....	8,107
650,000	842,725	2 14 0	5 16 0	Manchester and Bolton, and Bury	....	....	....	....
—	—	—	—	Maryport and Carlisle .....	....	586	....	883
9,020,000	8,179,980	3 10 0	7 0 0	Midland	18,231	17,863	18,036	16,792
—	—	—	—	Newcastle and Berwick	491	540	532	519
1,250,000	1,137,385	—	5 0 0	Newcastle and Carlisle	2,325	2,404	2,212	2,335
—	1,272,031	1 2 6	9 0 0	Newcastle and Darlington .....	....	....	....	....
210,000	316,869	1 5 0	5 0 0	Newcastle and North Shields amal. with Newcastle & Berwick	....	....	....	....
—	573,818	0 10 0	5 0 0	Norfolk	1,478	1,530	1,457	1,555
1,280,000	985,000	—	—	North British	1,216	1,169	1,126	1,349
—	1,060,551	3 7 6	6 15 0	N. Union & Bolton & Preston, amal. with Man. and Leeds	....	....	....	....
450,000	432,014	0 12 6	2 10 0	Preston and Wyre	661	656	635	610
1,533,000	1,313,225	—	5 0 0	Sheffield and Manchester	1,694	1,762	1,841	1,887
—	520,342	—	—	South Devon	849	879	761	638
6,400,000	6,300,000	0 16 0	3 4 0	South-Eastern and Dover	8,426	8,486	7,758	7,141
640,000	648,348	3 3 0	5 0 0	Taff Vale	849	1,3 6	1,192	....
933,635	500,000	—	5 10 0	Ulster	767	820	834	776
1,500,000	1,300,000	—	—	York and Newcastle	5,791	5,956	5,762	5,341
988,666	2,334,599	50s., 25s.	10 0 0	York and North Midland	6,521	6,226	5,948	6,235
—	—	—	—	—	—	—	—	—
7,204,000	—	0 3 0	4 0 0	FOREIGN RAILWAYS.	—	—	—	—
2,600,000	509,040	0 2 5	4 0 0	Northern of France	10,674	9,535	....	....
2,000,000	2,482,916	—	9 10 0	Orleans and Bordeaux	2,777	1,049	....	....
2,400,000	—	—	8 0 0	Paris and Orleans	8,807	6,627	....	....
—	—	—	—	Paris and Rouen	6,940	5,853	5,663	5,791

RAILWAY SHARE LIST - continued.

Shares.	Railways.	CLOSING PRICES.									
		Paid.	November 3.	November 10.	November 17.	November					
Average	London and Greenwich.....	12.15.4	04	—	03	0	—	04	9	—	04
Stock	Do. Preference or Privilege.....	18.17.2	21	—	23	21	—	23	21	—	23
25	London and North Western.....	100	108	—	200	100	—	198	105	—	197
25	Do. Quarters.....	2	20	—	21	pm	21	—	21	—	21
20	Do. do. New.....	2	14	—	14	pm	14	—	14	—	14
12	Do. Fifths.....	2	17	—	18	pm	17	—	18	—	17
25	Do. Eighth G. J.....	12	1	—	1	—	1	—	1	—	1
40	Do. New 1/4 Shares G. J.....	5	..	—	..	—	..	—	..	—	..
Average	Do. 40 Shares L and M.....	8	..	—	..	—	..	—	..	—	..
40	London and South Western.....	41.6.10	04	—	58	ex n	07	—	68	—	05
50	Do. New Consol Eighth.....	49	7	—	13	ex n	11	—	13	—	pm
40	Do. New.....	24	7	—	7	ex n	7	—	7	—	pm
25	Do. New.....	18	5	—	0	ex n	5	—	0	—	pm
25	London and York.....	24	1	—	1	dis	1	—	1	—	dis
50	Do. 1/4 Shares.....	24	1	—	1	dis	1	—	1	—	dis
50	London, Salisbury, and Yeovil.....	21	1	—	1	dis	1	—	1	—	dis
50	Londonderry and Coleraine.....	15	..	—	..	—	..	—	..	—	..
25	Londonderry and Enniskillen.....	15	..	—	..	—	..	—	..	—	..
25	Lynn and Ely.....	15	..	—	..	—	..	—	..	—	..
100	Lynn and Dereham.....	15	..	—	..	—	..	—	..	—	..
50	Manchester and Leeds.....	81	22	—	24	pm	22	—	24	—	pm
25	Do. 1/4 Shares.....	38	10	—	11	pm	0	—	10	—	pm
20	Do. 1/4 Shares.....	2	3	—	4	pm	3	—	4	—	pm
0 1/2	Do. Fifths.....	5	7	—	5	pm	5	—	5	—	pm
25	Do. Sixteenths.....	6	1	—	1	pm	1	—	1	—	pm
40	Do. Extension.....	42	1	—	1	pm	1	—	1	—	pm
10	Manchester and Birmingham.....	40	71	—	70	74	—	70	74	—	70
10	Do. 1/4 Shares, A.....	5	7	—	8	pm	7	—	8	—	pm
10	Do. do. B.....	5	7	—	8	pm	7	—	8	—	pm
10	Do. do. C.....	1	6	—	7	pm	7	—	7	—	pm
20	Manchester, Buxton and Matlock.....	42	1	—	1	pm	1	—	1	—	pm
20	Manchester and Southampton.....	2	..	—	..	—	..	—	..	—	..
Stock	Midland.....	100	133	—	135	133	—	135	126	—	128
40	Do. New.....	24	10	—	11	pm	7	—	8	—	ex n
50	Do. New.....	2	..	—	..	—	..	—	..	—	..
Stock	Do. Birmingham and Derby.....	100	105	—	110	105	—	110	110	—	105
25	Newcastle and Berwick.....	20	12	—	13	pm	13	—	14	—	pm
25	Do. North Shields.....	25	..	—	..	—	..	—	..	—	..
25	Newmarket and Chestford.....	5	..	—	..	—	..	—	..	—	..
Stock	Norfolk.....	100	130	—	134	128	—	131	130	—	133
10	Do. 1/4 Shares.....	0	3	—	3	pm	2	—	2	—	pm
20	Do. Extension.....	0	3	—	1	pm	1	—	1	—	pm
25	North British.....	25	12	—	12	pm	12	—	13	—	pm
12 1/2	Do. 1/4 Shares.....	11	5	—	5	pm	5	—	5	—	pm
5	Do. Fifths.....	5	..	—	..	—	..	—	..	—	..
0 1/2	Do. 1/4 Shares.....	1	2	—	2	pm	2	—	2	—	pm
0 1/2	Do. Extension.....	1	1	—	1	pm	1	—	1	—	pm
50	Northern and Eastern.....	50	70	—	73	70	—	73	75	—	79
50	Do. Serp (issued at 5 disc.).....	45	20	—	23	pm	20	—	23	—	pm
12 1/2	Do. 1/4 Shares.....	12	1	—	1	pm	1	—	1	—	pm
20	Do. New.....	1	19	—	21	pm	20	—	22	—	pm
25	North Staffordshire.....	42	2	—	2	pm	3	—	3	—	pm
25	North Wales.....	3	..	—	..	—	..	—	..	—	..
50	Oxford Worcester, and Wolverhampton.....	17	0	—	5	dis	0	—	5	—	dis
50	Portsmouth Direct.....	3	1	—	1	pm	1	—	1	—	pm
25	Preston and Wyre.....	25	34	—	35	34	—	30	31	—	35
20	Do. 1/4 Shares.....	4	..	—	..	—	..	—	..	—	..
20	Royston and Hitchin.....	1	..	—	..	—	..	—	..	—	..
100	Sheffield and Manchester.....	1	..	—	..	—	..	—	..	—	..
25	Don and Lincolnshire Junction.....	1	..	—	..	—	..	—	..	—	..
25	Scottish Central.....	12	7	—	8	pm	7	—	8	—	pm
25	Scottish Midland.....	12	par	—	1	pm	par	—	1	—	pm
25	Shrewsbury and Birmingham.....	4	..	—	..	—	..	—	..	—	..
20	Shropshire Union.....	42	..	—	..	—	..	—	..	—	..
50	South Devon.....	49	7	—	5	ex d	7	—	5	—	dis
Average	South Eastern and Dover.....	33.2.4	37	—	3	37	—	38	31	—	37
50	Do. New (issd. at £32) No. 1.....	20	2	—	3	pm	3	—	4	—	pm
50	Do. New (£33 6s. 8d.) No. 2.....	12	2	—	2	pm	2	—	2	—	pm
50	Do. New (£33) No. 3.....	15	1	—	2	pm	2	—	3	—	pm
25	Do. New (issd. at £15) No. 4.....	2	1	—	1	pm	1	—	1	—	pm
50	South Wales.....	5	1	—	1	dis	1	—	1	—	dis
20	Val of Neath.....	2	..	—	..	—	..	—	..	—	..
20	Waterford and Kilkenny.....	11	7	—	5	dis	7	—	5	—	dis
25	Waterford, Wexford, Wicklow, and Dublin.....	1	..	—	..	—	..	—	..	—	..
50	Wexford, Waterford, & Valen.....	1	1	—	1	dis	1	—	1	—	dis
20	Welsh Midland.....	24	1	—	1	dis	1	—	1	—	dis
50	West Riding Union.....	42	..	—	..	—	..	—	..	—	..
50	Wilts, Somerset, & Weymouth.....	15	0	—	5	dis	0	—	5	—	dis
25	York and Newcastle.....	25	18	—	10	pm	10	—	20	—	pm

RAILWAY SHARE LIST—continued.

Shares.	Railways.	Paid.	CLOSING PRICES.			
			November 8.	November 10.	November 17.	November 24.
235	York and Newcastle, New	£5	12½ — 13½ pm	13½ — 14½ pm	8 — 9 ex n	7 — 8 pm
25	Do. Preference	2	.. ..	.. ..	5 — 5½ pm	4½ — 5½ pm
50	York and North Midland	50	98 — 99	100 — 102	98 — 94 ex n	90 — 92
25	Do. Shares	25	47 — 49	50 — 51	45 — 47 ex n	44 — 46
50	Do. Selby	40	44 — 46 pm	46 — 48 pm	38 — 40 ex n	35 — 37 pm
25	Do. Extension	20	30 — 31 pm	21½ — 22½ pm	18 — 19 ex n	16½ — 17½ pm
25	Do. Preference	2	.. ..	.. ..	9½ — 10½ pm	9½ — 9½ pm
25	Do. E. & W. Riding Extensn.	5	15 — 16 pm	15 — 16 pm	12½ — 13½ ex n	11 — 12 pm

FOREIGN RAILWAYS.

25	Barbadoes	1	.. ..	.. ..	.. ..	.. ..
20	Boulogne and Amiens	16	1½ — 1½ dis	2½ — 1½ dis	2½ — 2½ ex d	2½ — 2½ dis
20	Bordeaux, Toulouse, & Cette, (Mackenzie's)	2	.. ..	.. ..	.. ..	.. ..
20	Bordeaux, Toulouse, & Cette, (Espelet's)	2	1½ — 1 dis	1½ — 1½ dis	1½ — 1½ dis	1½ — 1½ dis
20	Calcutta & Diamond Harbour	7s.	.. ..	.. ..	.. ..	.. ..
20	Central of Spain	2	1½ — 1½ dis	2 — 1½ dis	2 — 1½ dis	2 — 1½ dis
20	Ceylon	5s.	.. ..	.. ..	.. ..	.. ..
20	Demerara	2½	.. ..	par	.. ..	.. ..
20	Dendra Valley	4	.. ..	.. ..	.. ..	.. ..
20	Direct Bombay and Madras	5s.	.. ..	.. ..	.. ..	.. ..
20	Dutch Rhenish	6	1 — 1 dis	1 — 1 dis	1½ — 1½ dis	1½ — 1 dis
20	East Indian	5s.	.. ..	.. ..	.. ..	.. ..
20	Great Indian Peninsula	5s.	.. ..	.. ..	.. ..	.. ..
20	Great Southern of Madras	5s.	.. ..	.. ..	.. ..	.. ..
20	Great Western Bengal	5s.	.. ..	.. ..	.. ..	.. ..
20	Italian and Austrian	4	.. ..	.. ..	.. ..	.. ..
20	Jamaica South Midland Junc.	1	dis — par	dis — par	.. ..	.. ..
20	Louvain à la Sambre	6	4½ — 4½ dis	4½ — 4 dis	4½ — 4 dis	4½ — 4 dis
20	Lyons and Avignon	2	.. ..	.. ..	.. ..	.. ..
20	Luxembourg	4	2½ — 2½ dis	2½ — 2½ dis	2½ — 2½ dis	2½ — 2½ dis
20	Madras, Neilore, and Arcot	8	.. ..	.. ..	.. ..	.. ..
20	Namur and Liege	8	4½ — 4½ dis	4½ — 4 dis	4½ — 4 dis	4½ — 4 dis
20	Northern of France (constitd.)	5	6½ — 6½ pm	5½ — 5½ pm	5½ — 5½ pm	5½ — 5½ pm
20	Orleans and Vierzon	10	2½ — 3 pm	2½ — 2½ pm	2½ — 2½ pm	2½ — 2½ pm
20	Orleans and Bordeaux	6	1½ — 1½ pm	1½ — 1½ pm	1½ — 1½ pm	1½ — 1½ pm
20, 10, 5	Over-Yssel	4, 3, 4	3 — 2½ dis	3 — 2½ dis	3 — 2½ dis	3 — 2½ dis
20	Paris and Lyons (constitd.)	5	dis — par	dis — par	.. ..	.. ..
20	Paris and Orleans	20	47½ — 48½	47 — 48	47 — 48	46 — 47
20	Paris and Rouen	20	35 — 36	35 — 36	35 — 36	33½ — 34½
20	Paris and Strasbourg (const.)	5	1 — 1 dis	1½ — 1 dis	1½ — 1 dis	1½ — 1 dis
20	Rouen and Havre	20	26½ — 27½	26 — 27	26 — 27	24½ — 25½
20	Sambre and Meuse	10	5½ — 5 dis	5½ — 5 dis	5½ — 5 dis	5½ — 5 dis
14	Strasbourg and Bale	14	8 — 9	8 — 9	8 — 9	8 — 9
20	Tours & Nantes (constitd.)	5	dis — par	1 — 1 dis
20	West Flanders	6	3½ — 2½ dis	3½ — 2½ dis	3½ — 2½ dis	3½ — 3 dis

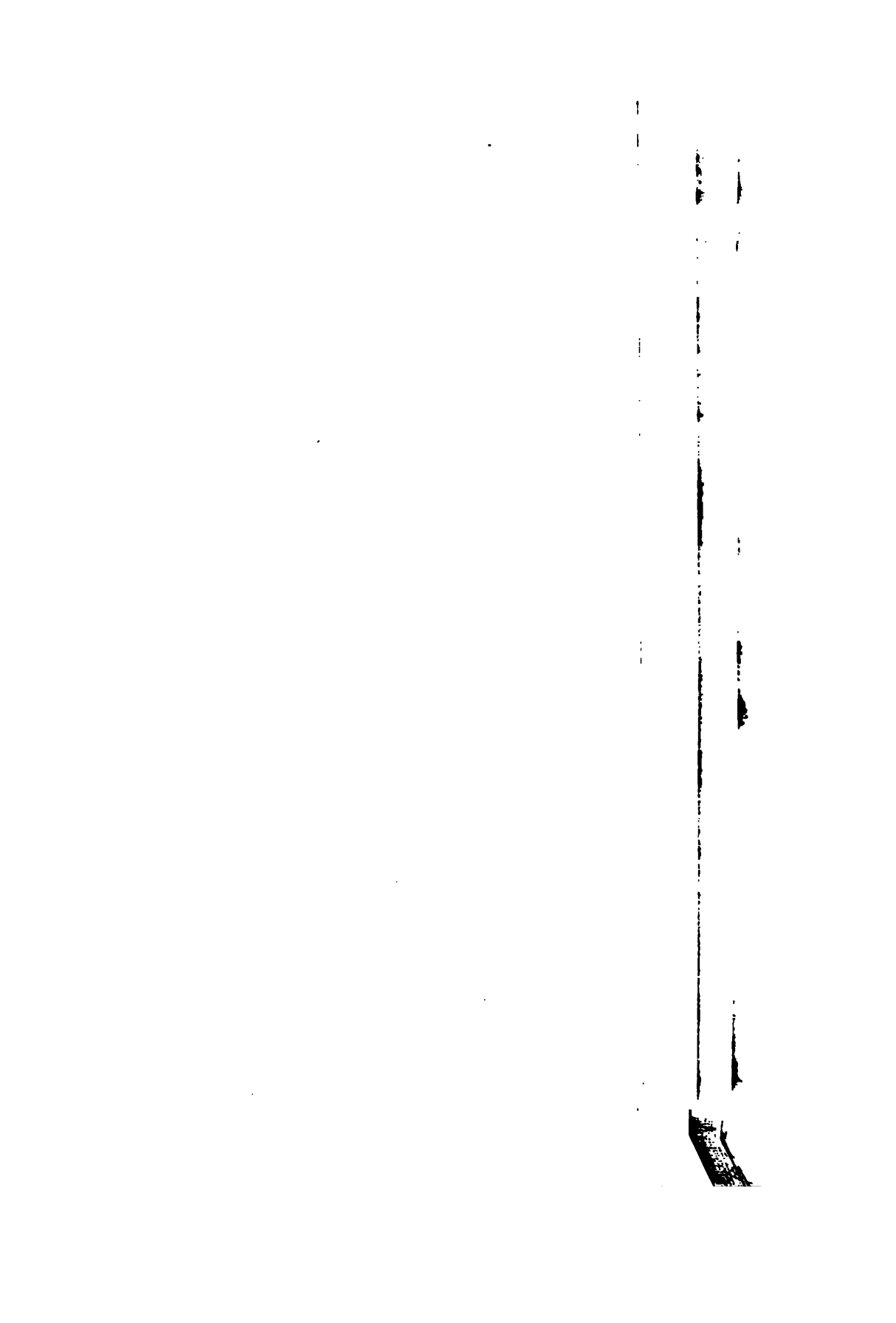


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R E P O R T

PRESENTED

TO THE

SHAREHOLDERS

IN THE

GREAT LUXEMBOURG

COMPANY.

14th JULY, 1846.

OFFICES OF THE COMPANY,

No. 1, ROYAL EXCHANGE BUILDINGS.

**KING & SON, PRINTERS,
COLLEGE HILL, THAMES STREET, LONDON.**

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LIST OF DIRECTORS.

F. F. DE CLOSSMANN, Esq., *President.*

JAMES HENRY ATTWOOD, Esq.

T. H. BLUCK, Esq.

JAMES BRAND, Esq.

WILLIAM EVANS, Esq.

RICHARD HEAVISIDE, Esq.

CHARLES LYALL, Esq.

SIR WILLIAM MAGNAY, Bart.

JOHN MASTERMAN, Jun., Esq.

HENRY SIMONDS, Esq.

TO THE SHAREHOLDERS

IN THE

GREAT LUXEMBOURG COMPANY.

GENTLEMEN,

THE period has now arrived when we are enabled to lay before you an account of our proceedings since the first formation of this Company, and to place you in possession of authentic information regarding the present position and value of your property:

The delay which has taken place has arisen from the changes which have occurred in the Belgian Ministry—the adjournment of the Chambers—and the discussions which naturally arose (on their re-assembling) upon questions of public policy, claiming precedence over all matters of local interest, however important.

It has been the earnest endeavour of your Directors to turn to the best account the interval which has elapsed since the publication of the prospectus, and to advance in every possible manner the interests of the Company.

In the month of July, 1845, this undertaking was first brought before the notice of the British public; the whole number of shares (150,000), were at once allotted *without reserve*, and, notwithstanding the difficulty which always attends an allocation of stock to such extent, your Directors had the satisfaction to find that such a selection had been made from amongst the

Origin o
Comm. 1841

numerous applicants, as to ensure the prompt payment of the deposit of Ten per cent, or £2 per share, upon 142,436 out of the whole number :

Having thus secured an ample capital for the purposes of the Company, a majority of the Board immediately proceeded to Brussels, to deposit with the Minister of Public Works the amount required as Caution money (£200,000); and to make all other necessary arrangements relative to the property of the Company.

It will be remembered, that the objects of the Association were described to be twofold:—First, the construction of a great line of railway traversing the provinces of Namur and Luxembourg, and connecting the State lines of Belgium with France and Germany;—thus serving as the high road to Strasburg, Prussia, Austria, Switzerland, and Italy. And, secondly, the purchase of the unfinished Canal, and the Mineral property of the “Société de Luxembourg,” and the completion of so much of the canal as would satisfy the urgent demands of the population south of Liege, and secure the Railway against all chance of competition in the carriage of goods.

Purchase of
the Canal.

With respect to the latter object, we have to report, that the purchase of all the shares of the “Société de Luxembourg” has been duly effected for the sum named in the prospectus (£260,000).

At a Special General Meeting of the Old Company, held at Brussels on the 3rd of September, 1845, the Directors who had hitherto presided over the affairs of the Company tendered their resignation; the present Board succeeded to their functions; and the alterations required by the new state of things were introduced into the Statutes.

A detailed survey has been made of the whole course of the Canal, as well as of the districts adjoining, and your Directors are confirmed in their original conviction of the value of this possession of the Company, securing, as it does in connection with the Railway, the traffic between the Meuse at Liege, and the Moselle, whilst no doubt can exist of an ample remuneration upon that portion, which it is proposed to execute in the first instance.

The Luxembourg Canal was designed to connect the cities of Liege, on the Meuse; of Luxembourg, near the Alzette; and of Trèves, on the Moselle; and has been partly executed by the canalization of the river Ourthe, at its northern, and the Sur, at its southern extremities; the length originally projected being one hundred and seventy miles. The "Société de Luxembourg" vigorously pursued their purpose from the year 1827 until the revolution of 1830.

Your Directors propose the immediate completion of a part only of this canal, viz, from Liege to La Roche; a distance, following the windings of the Ourthe, of about nineteen leagues or fifty-seven English miles, for which an estimate has been obtained (from an engineer of the original Société), which states £120,000 as the required amount.

From the embouchure at Liege, the Ourthe passes through Grèvegnée, Angleur, Chénée, Tilf, Esneux, Durbuy, Deulin, Hotton, and Hampteau, to La Roche. These, and many smaller places on the banks, and in its vicinage, include an aggregate number of 167,920 inhabitants, a large part of whom find employment in works and manufactures adjacent to the Ourthe, of which the following enumeration includes only the larger and more striking, viz:—nineteen Iron-works with blast furnaces; twelve forges; nine rolling mills, with foundries; nail-making and wire-drawing works; two large establishments for the manufacture of zinc, viz, those of "La Vieille Montagne"; thirty-nine Corn-mills; twenty-one Breweries; four Distilleries; a flax, cotton, and woollen mills; a manufactory of cloth, and a dyeing establishment; three Saw-mills; three large Potteries; thirteen Tanneries; three Colour-mills; and a Boat-building establishment. In addition to these is a Colliery, and seventy-eight kilns for burning lime. Also numerous mines for iron ore, and at Comblain and Polseur, Quarries for building and paving-stone, extending on *both* banks of the river *for several leagues*.

The present condition of the Ourthe, with a rocky bottom and frequent shallows, permits, at best, but a dangerous navigation, destructive to the boats, and costly from delay. In many cases this cost is a complete prohibition. To such an extent, however,

have the wants of a large and industrial population forced the use of this miserable means of transit, that during the year 1845, thirty-two thousand nine hundred and six voyages were made between Liege and La Roche; the registered tonnage of which could not be less than two hundred and fifty thousand tons.

This existing traffic, computed at the tonnage permitted to be levied by the Concession of 1828 as soon as a sufficient portion of the canal is navigable for boats of forty tons burthen, would amount to £13,022 per annum. At Deulin, about fourteen leagues from Liege, it is intended to connect the canal with the main-line of railroad from Namur, by a branch to Rochefort. That portion will then sustain the heavy merchandize-traffic, by which Liege will secure all the advantages of the Great Luxembourg line; there will also be a triangle of country (Liege, Namur, and Rochefort forming its three angles) having a surface of many hundred square miles, bounded by the means of transit provided by this Company.

In a few years, this portion of the canal cannot fail to become one of the most profitable of the Company's investments. Independent of that developement inseparable from the manufactures of Liege, and the numerous sources already named, we select four for special notice, viz—Stone, Minerals, Lime, and Coal. From the localities named, large supplies of building and paving-stone are yearly sent to Brabant, the Flanders, and Holland. Both quality and price will distance competition when conveyance, at a moderate cost, is provided. Millions of tons of inferior sized stone, suitable for macadamization, which have for years accumulated on the banks of the Ourthe, will become marketable, whenever the cost of transit permits their removal. The Minerals, at Durbuy (one of the Company's estates), at Bomal, and at numerous localities on the banks of the Ourthe, are in the same condition as the quarries. It has been ascertained that the consumption at the furnaces of Seraing, Schlessin, and Liege, will increase tenfold as soon as their cost is reduced by an amended navigation. These, and other sources, will, in the estimation of the best local authorities, ensure a satisfactory revenue for this division of the Luxembourg Canal.

But, as will be seen in another part of this Report, there are large additions in prospect, viz:—

From a diversion, or change of direction, in the present transit from Liege, viâ Cologne and the Rhine, to Tréves and to Germany; and, from the supply of the existing consumption of coal, by the Iron-works of the North-east of France. These, upon the fourteen leagues of canal to Deulin, computed by the tariff before-named, will amount to an annual revenue of £15,699; thus raising the gross income of this portion of the canal to £28,721, which will be found included in the general statement at page 24.

At the southern end of this project, the canalization of the river Sur from Diekirch to the Moselle at Wasserbillig, a distance of about thirty-five miles, has been found sufficiently attractive to induce the Grand Ducal government, in the event of their taking the completion on themselves, to agree to account to the Luxembourg Company for one half the profits, after receiving four per cent upon the amount of their outlay.

The “Société de Luxembourg” expended, on their Mineral researches, previous to the Revolution of 1830, a sum of £6,420, all of which at present awaits developement.

The completion of the Canal and the Railroad, but especially the former, will confer a large value on the Company’s minerals; whence a considerable addition to its income will be realized, independent of an augmentation of *tonnage on the Canal*, to the amount of several thousand pounds per annum.

The Directors take occasion to remark, that mining is not *their* vocation. Whenever the value of these mineral estates is ascertained, by the formation of a cheap and facile means of transit to their respective markets, it will be easy to “realize thereon,” by leases under Royalties, to Iron-masters or others, as may then be deemed advisable. It must also be borne in mind, that the grant of the Canal and of the Mines, is *for ever*; and that this *perpetuity* of possession is freed from the interference of the “Corps of Ponts and Chaussées.”

With respect to the Railway, your Directors found that neither plans nor surveys were in the possession of Government, of sufficient accuracy to determine the course of an undertaking of

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such magnitude; and they accordingly, at once, made arrangements with the Minister, to obtain a new survey and estimate under the direction of Government, as well as an entirely independent survey from the Engineer of the Company. The instructions to both parties were of a comprehensive character, and ample time was allowed for a thorough investigation of the country, with the view of ascertaining the best possible route which could be followed, combining economy with directness. After the experience of late years, your Directors were of opinion that some delay and cost would be well bestowed in ensuring to the Company the possession of a line, which should leave little room for improvement or reduction in distance hereafter, along a route destined to fill so important a place in the intercourse of European nations.

These preliminary arrangements having been made, the attention of your Directors was forcibly called to the vast improvement which would be effected in the undertaking, if the consent of the Government, and of the Legislature, could be obtained to the extension of the line to Brussels. It will be seen on reference to the Map, that the State line from Brussels to Namur, pursues a circuitous course by the way of Charleroi; and although the Luxembourg railway, if confined to a line from Namur southwards, would form by far the shortest mode of communication between the State lines and the North-eastern portion of France, (in connexion with the Paris and Strasbourg Railway), still, your Directors felt, that if it were possible to accomplish this object, a great trunk-line of such international importance ought to have its principal station in the Metropolis of the kingdom, and be allowed to pursue the most direct course which the nature of the country permitted. In pursuance of the ample powers which had been entrusted to them, to effect any modification which might be considered conducive to the interests of the Company, they pressed the question upon the attention of the Minister of Public Works, who, from the first, seemed fully alive to the importance of the object, but foresaw grave difficulties in the way of its accomplishment:

In the first place, it will be seen that a railway direct from

Brussels to Namur, would seriously interfere with the traffic upon the circuitous State line, viâ Charleroi; and in the second place, it was suggested that the Government had hitherto granted to no public company the right to construct any railway commencing from the Metropolis.

Your Directors, however, relying upon the justice of their cause, and upon the advantages which would ultimately accrue to the other State lines, from securing to Belgium the shortest possible route to Strasbourg, Germany, Switzerland, and Trieste, continued to press their claim unremittingly upon the Government; and were seconded in their efforts by the Directors of the Louvain à la Sambre Company, who had taken the same view of the subject with themselves, and who were naturally anxious to secure a portion of the advantages. In fact, the desire of both Boards was, to convert the character of the undertakings over which they presided, from the local to the National and Metropolitan; and the result of an arrangement between the two Boards has been, to secure to the Luxembourg Company a station in the city of Brussels; a direct line from Brussels to Wavre; and, upon payment of an equitable charge, the use of the Louvain à la Sambre line from Wavre to Namur.

A convention was signed at Brussels, on 28th December, 1845, embracing these advantages. A Bill founded thereon was introduced into the Chambers on the 4th of March; and after much discussion in both Houses, evincing, as was natural, some jealousy on the grounds already adverted to, but displaying a truly patriotic appreciation of the *value* of the undertaking to Belgium, the Bill passed, and received the Royal assent on the 18th June, 1846.

The Great Luxembourg line, thus authorised by law, will be enabled to commence from a station in the "Quartier Leopold" at Brussels, and passing Boitsfort, arrive at Wavre (about fifteen miles), where it will join the Louvain à la Sambre line, which passes Gembloux on its route to Namur.

The station at Brussels will be connected by a branch line with the government "station du nord," bringing it into direct communication with the Port of Antwerp. At Namur, also,

the station will adjoin that of the Government, and the Namur and Liege line. The distance (including the branch), will be under thirty-nine miles; that of the Government line, between the same points, is sixty-six miles. From Namur, the line will be continued in the direction of Ciney, Rochfort, Recogne (near St. Hubert), and Neufchateau, to Arlon; the distance from Namur to Arlon being about eighty-two miles. Between Namur and Arlon there are two branches from the Eastern side of the line, each with a single line of rails; one of them, twelve miles in length, leaves the main line at Rochfort, passes Marche, and terminates at Deulin—a convenient locality upon the Luxembourg Canal, about forty miles from Liege; thus connecting that great manufacturing city and neighbourhood with the grand-trunk: the other branch reaches Bastogne in about eighteen miles, and gives that important and central district access to the main-line at Longlier, near Neufchateau.

From Arlon the line crosses the Grand Ducal frontier at Stienfurt, passes the iron-works at Habbaye, and reaches the city of Luxembourg, being little more than sixteen miles. From Luxembourg, the extension to Metz will turn due south, and enter France at Frisange; taking Thionville and Ukange on its way. The terminus at Metz, according to the plans approved of by the local authorities, and to be submitted to the French government, will be close to the city, and adjacent to the stations of the Paris and Strasbourg, and of the Metz and Sarrebruck lines; both of which are in rapid progress. The length of the line between Luxembourg and Metz is thirty-six miles. The entire length described will be two hundred and three and a half miles, of which twenty-two and a half being executed by the Louvain Company, will leave one hundred and eighty-one miles for the Great Luxembourg.

The only engineering difficulties occur between Namur and Ciney, where the rise from the Valley of the Meuse to the "crêtes" or heights of the Ardennes, involves an outlay which augments the average cost of the line. This, however, will be seen to be completely neutralized, when it is stated, that an average of one hundred and fifty miles (including that portion),

does not exceed £11,015 per mile. The level of the Ardennes once attained, the line is certainly good. From the summit at Recogne there is an easy descent to Arlon, which gradually increases to Luxembourg; and on approaching Thionville, the surface subsides into a flat uniform plain (bordering the Moselle), which continues to the city of Metz. As a general feature, all the lines exhibited to the Shareholders are singularly direct; and if compared with straight lines drawn from town to town, the excess, or additional length, barely exceeds ten per cent.

In accordance with the condition annexed to the first Convention, and named in the Prospectus of the Company, the surveys first ordered by the Directors, and completed by the Government engineers, fully sustained the cost for a single line of rails (and earth works, and works of art, commensurate with an eventual double one), as being under £10,000 per mile; but the interests of Southern Europe, not to name India, claimed a short and more direct line; and these inducements to lessen distance, though at a somewhat increased cost, suggested an order to the Company's engineer, to re-survey for the shortest and most direct line possible. The result has been, that the line now delineated saves no less than twelve miles out of ninety-six, between Namur and Arlon; which includes a saving of about half that distance, by a change in the direction of the line from Yvoir to Namur.

The increased cost above-named, includes an addition of ten per cent for unforeseen charges; and covers every expence of locomotion, and the "materiel" needful to work the line.

A period of six months is allowed for fixing the definitive "tracés." The Engineering staff is therefore engaged upon localities susceptible of improvement; and no pains will be spared to employ this interval for investigation in such a manner as must result in a reduction of the outlay to its lowest safe amount.

Your Directors, whilst engaged in improving the leading features and terms of the first Convention (as already described), were not unmindful of the great depression which has

Measures
ascertain
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weighed for many months upon all railway projects, in consequence of the extraordinary expansion of the system beyond the present means of accomplishment; and sharing in the general conviction, that no undertaking ought to be proceeded with which does not hold out a reasonable prospect of ample remuneration; they considered that it was due to the Shareholders and to themselves, to investigate anew the resources upon which the Luxembourg Company depends, and to lay the results of such examination before the Proprietors; a series of visits was accordingly made to Belgium, France, the Grand Duchy of Luxembourg, Germany, and the Circle of Trèves; and, neither pains nor cost were spared, in obtaining the most elaborate and authentic information upon the *actual* and *existent traffic*, produced by the local wants and resources of the countries and provinces about to be traversed by the projected lines. A minute, and as it has proved most successful, investigation into the traffic of the Rhine, became *also* needful, from the new and important relation in which the Port of Antwerp will be placed to Germany, the Provinces of the Upper Rhine, and France, through the communication opened by the Luxembourg Railway.

These enquiries have imposed great personal labour at the localities above named, and occupied many months; and in confirmation of their extent and importance, the Shareholders are invited to inspect the Documents at the Company's offices, which have been obtained from the following sources, viz :—

From The BURGOMASTER of CINEY.

The Principal MERCHANTS of DINANT.

The BURGOMASTER of ROCHFORT.

„ of ST. HUBERT.

The SECRETARY to the MAGISTRACY of NEUFCHATEAU.

The BURGOMASTER of ARLON.

The CUSTOM-HOUSE of the BELGIAN FRONTIER at AUBANGE,
by Authority.

The FRENCH CUSTOM-HOUSE, opposite to Aubange, at St. MARTIN;
and, the one opposed to the Grand Ducal frontier at Evrange; by permission of the Minister of the Interior of France.

The GRAND DUCAL CUSTOM-HOUSES, by order of the Governor-General of Luxembourg.

The **CHAIRMAN** of the **CHAMBER** of **COMMERCE** of the City of Luxembourg.

The **PRINCIPAL** of the **IRON-MASTERS** of the Iron-district in the Department of the Moselle, in the North-east of France.

The **CHAIRMAN** of the **CHAMBER** of **COMMERCE** for the City and Circle of Trèves.

The personal and written Communications of a **MEMBER** of the **CHAMBER** of **DEPUTIES** for Luxembourg (Belge.)

The principal **BANKING-HOUSE** at Manheim, the Partners of which are Directors of several Railways in Bavaria, and the Grand Duchy of Baden.

The **GOVERNMENT ENGINEERS** at Carlsruh.

Merchants and Manufacturers at Strasbourg, Sarrebruck, Metz, Thionville, Liege, and Seraing.

And in some cases traffic-takers have been employed.

These documents bear the signature or attestation of all the parties by whom they have been supplied; and in some important instances have a notarial official stamp.

The actual traffic or "mouvement" thus ascertained, has been calculated at the tariff of the Concession obtained from the Belgian government, for such distances as each class of travellers and goods were known, or computed, to traverse.

This has been considered by your Directors to be the soundest basis for an estimate of that extent of future traffic, which a line so favourably located, is sure to develop when carried out in all its integrity, and becomes (as it inevitably must), the great high-way to Southern Germany, the North-east of France, Switzerland, and eventually Venice and Trieste.

A selection of the largest items of the Revenue thus ascertained will be important for those who may not have opportunity to inspect the full and extended statements, which are in the Company's possession.

The population adjacent to the line from the Capital to Namur, and within only one league of distance on each side, is not less than 171,000 persons. But the Luxembourg line saves so much upon the present routes to Brussels, that even from the vicinage of Liege, and for fifteen miles on the road to Charleroi, the journey to Brussels by the Luxembourg line will be shorter, quicker and cheaper than by the Government lines. We have

Traffic from
Brussels to
Namur.

thus the population and traffic of Liege, that of Chokier, Seraing, and the valley of the Meuse, on the one side; and a large part of the mining population towards Charleroi on the other; which will double at least the passengers, and greatly augment the goods-traffic, at present amounting to 150,000 tons per annum each way.

To Namur the Diligence compares with the Rail thus, viz. :—

Direction of Route.	Distance in English Miles.	Time in Hours.	Fares for the Conveyance.		
			Coupeé.	l'Intèr.	Banquette.
Brussels to Namur } by Diligence }	36	7	fr. 6	fr. 5	fr. 5
			1st Class.	Second.	Third.
Ditto by Rail.....	38	1½	fr. 5.35	fr. 3.87	fr. 2.67
A saving of	... Hours	5½	fr. .65	fr. 1.13	fr. 2.33

} for each Passenger

And for Merchandize thus :—

Direction of Route.	Ordinary Conveyance per Ton.	Charge by the Rail.	Saving by the Rail per Ton.
Brussels to Namur } by Diligence }	fr. 20	fr. 9	fr. 11

Traffic from Namur to Arlon.

The railway from Namur to Arlon traverses the provinces of Namur and Liege, the aggregate population of which amounted in 1843, to 438,035 souls. The passenger traffic will have the following as a few of its most striking features :—

There are four diligences daily from one end to the other.

His Majesty's two hunting seats on the line, one near Rochfort, the other at St. Hubert, inducing frequent and long visits to the

* In this, and the comparisons which follow, the saving is greatest upon the second and third class fares. Experience has shown, that these form nine-tenths of the passenger receipts. In proof of this, the statements of the Belgian State line, and of the English local line, for 1845, are quoted; the former had near 350 miles, the latter but 61 miles at work, during the whole of the year.

LINE.	FIRST CLASS.	SECOND CLASS.	THIRD CLASS.
Belgian State line	11.5 per cent.	28. per cent.	60.5 per cent.
Manchester & Leeds line	8.7 „	29.1 „	72.2 „

Ardennes, with convoys and attendants. The Royal Family, and a large train of the Nobility, are also attracted to the vicinage of these places.

The weekly and quarterly meetings of assize and justice, at the various market towns, attended annually by about two thousand persons.

The scholars and professors of the large government military and ecclesiastical educational establishments at Namur, St. Hubert, and Arlon, who keep "terms," or periods of instruction, and make several journeys each year.

The Curés and Vicaires of nearly one thousand parishes, who visit their Bishops twice a year.

The visitors to the Grotto of Hans sur Lesse, registered annually to the number of two thousand and upwards.

The visitors to the Cathedral of St. Hubert, registered at upwards of five thousand per annum.

The Military, changing their quarters once a year.

Money in specie (a large item of conveyance), by the Diligences traversing Luxembourg and the Ardennes.

Travellers in private carriages from Germany, Switzerland, France, Prussia, England, &c.

In addition to the above, and belonging to the agricultural class, there are annually in seventeen market towns, and smaller places upon the line, ninety-five fairs, and two hundred and fifty-four markets, which are attended by one hundred and ninety-one thousand eight hundred people, with twenty-three thousand one hundred horses, fifty-three thousand eight hundred cattle, one hundred and ten thousand sheep, and sixty-four thousand pigs. These fairs are attended by Dealers from the north-east of France, the Grand Duchy of Luxembourg, Prussia, the Lower provinces of Hainault, Namur, Brabant, and the Two Flanders; who purchase and take back nearly all the good cattle and horses brought for sale.

A comparison of the Diligence and Railroad fares from Brussels to Arlon will prove the economy of the latter, viz. :—

Direction of Route.	Distance in Miles English.	Time in Hours.	Fares.		
			Coupé.	l'Inter.	Banquette.
Brussels to Arlon by Diligence..	111	23	fr.23.50 1st Class.	fr. 20 Second.	fr. 20 Third.
Ditto by Rail ..	119	5½	fr.19.35	fr.13.67	fr. 9.67
A Saving of	.... Hours	17½	fr. 4.15	fr. 6.33	fr. 10.33

} for each Passenger.

The Merchandize Traffic presents the following as its most striking features:—

WOOD (in trees) for colliery use; and wood (sawn) for buildings.

The annual sales of the Communal woods are regulated by law, and under the control of Government and Parochial functionaries. The line from Namur to Arlon has about *one half* its length in *each* of the provinces of Namur and Luxembourg; the annual amount of the sales of wood in these provinces is found to be £60,000. The weight is fifty two thousand five hundred tons, of which at least *three-fourths* are exported to neighbouring provinces and countries.

BARK.—The two provinces have a surface covered with wood of an age to produce bark, of about six hundred and eighty thousand English acres. One-twentieth of this quantity, or about thirty-four thousand acres is permitted to be cut and barked every year: hence upwards of twenty thousand tons are annually obtained, of which not one-third is consumed in the country, the bulk of it being exported into the Grand Duchy, France, the Low-countries; and Liverpool, *viâ* Antwerp.

CHARCOAL.—From eighteen to twenty thousand waggons, carrying from twenty-eight to thirty cwt. each, annually pass the Custom-houses, and the provincial “Bureaux d’entrées,” on their way to the iron-works in the north east of France; in the Grand duchy; in the valley of the Meuse; and in the southern part of the province of Namur.

LIME.—From the excessive cost of land-carriage in such a country, (there being *no lime* in Luxembourg, and the nearest points being Rochfort on one side, the Grand Duchy on the other), about one-fourth *only*, or sixty-five thousand acres are limed every third year. But even this, at two tons per acre (the usual proportion), causes the transit of upwards of forty thousand tons from distant points into the interior of the province.

GRAIN.—Luxembourg is dependent upon neighbouring provinces and countries for a part of its grain; upwards of forty thousand tons being annually imported. It imports largely also of “Denrées coloniales,” Wines, and Spirits; Foreign hides for tanning; Beer, Glass-wares, and Manufactures, from Antwerp, Brabant, Namur and Liege.

COAL, of which at present about twenty thousand tons are consumed in Luxembourg, is brought by land from the valley of the Meuse, on the one side, and Sarrebruck (in Prussia), on the other.

MINERALS, Slates, Marble, and Building-stone, of the best quality: their exportation forms a large part of the quantity annually raised;

which has been ascertained to exceed considerably thirty thousand tons. Luxembourg also sends out many thousand tons of Pig and refined iron, Charcoal-iron, Metals, Heavy pottery-wares, Tanned-hides; and Wool, the produce of two hundred and seventy thousand sheep, which traverse its extensive plains.

A comparison of the cost of transit of general merchandize by Diligence and by Rail, will shew how great a benefit the rail is about to confer upon this country.

Direction of Route.	Ordinary Conveyance per Ton.	Charge by the Rail.	Saving by the Rail per Ton.
Brussels to Arlon ..	fr. 120	fr. 37	fr. 83
Namur to Arlon ..	fr. 100	fr. 28	fr. 72

Intermediate places after the same proportion.

There is in competition with the Diligences and the "Roulage Accélééré," which have been quoted above, a slow conveyance requiring from ten to twelve days between Brussels and Arlon, which carries at one-third less than the rates above given.

The Grand Duchy of Luxembourg has a population of upwards of 100,000, *adjacent* to the Great Luxembourg lines projected therein. There are also from eight to ten thousand soldiers doing garrison-duty in the Citadel of Luxembourg, and the various Frontier-fortresses, whose annual changes produce much travelling. It is also situated between the populous parts of Prussia; and Lorraine and Alsace, in France.

Traffic
through
Grand
Duchy,
Arlon
Luxem

The concession of the Grand Ducal lines, under date of the 24th June last, has the following advantages, viz. :—

No caution-money is required; the Company are free to select their lines without interference from the Government; the right of transit for merchandise to countries not included in the German States' Union, is guaranteed by the Government; and the Mining privileges possessed by the Company as successors to the Société de Luxembourg in Belgium, are recognised and extended to the Grand Duchy of Luxembourg.

A comparison of fares will shew, that competition with the Rail is impossible :

Direction of Route.	Distance in English Miles.	Time in Hours.	Fares for the Conveyance.		
			Coupé.	l'Inter.	Banquette.
Brussels to Luxembourg } by Diligence }	126	26	fr.26.50	fr.23	fr. 23
Ditto by Rail	135½	6	1st Class. fr.21.85	Second. fr.15.42	Third. fr. 10.92
A saving of	Hours	20	fr.4.65	fr. 7.58	fr. 12.08

The Merchandize traffic, ascertained for the Grand Duchy, is considerable, both for its own consumption, and as a country of transit between Belgium, France, the Circle of Trèves, and Germany. Over the Belgian frontier, it imports "Denrées coloniales" from Antwerp; Iron and Iron manufactures from Liege; the productions of the Low-countries, and Brabant from Brussels; Cutlery, and Ironmongery-goods, from Namur; Cattle, and various products from the towns along the line, to the yearly amount of about eight thousand tons; for which it returns grain, gypsum, and other produce to the extent of about six thousand tons. It also passes through its territory for the Prussian iron-works in the circle of Trèves, many thousand tons of iron from Belgian Luxembourg.

There are also in the Grand Ducal Luxembourg, at Sauvage, Bissen, Eich, Frischbach, &c., nine iron-works with blast furnaces, and the usual subordinate manufactures, which produce annually nine thousand tons of iron; these, by their demand for minerals from localities adjacent to the line, and the delivery of their produce, cause a heavy amount of traffic.

About twelve thousand tons of Sarrebruck coal are imported annually from the Sarre, *via* Wasserbillig and Gravenmacher.

But the Grand Duchy receives "Denrées coloniales" from Rotterdam, up the Rhine and Moselle, by way of Trèves, to the extent of several thousand tons per annum. That these will hereafter be secured to the Great Luxembourg line, is apparent from the following statement, *viz.* :—

Route.	Distance in Miles.	Time of Transit.	Cost per Ton.
From Rotterdam up the } Rhine and Moselle to } Trèves	say 400 Miles	20 Days	fr. 41
Trèves to Luxembourg ...	30 "	2 "	fr. 18
Total	430 Miles	22 Days	fr. 59
From Antwerp, <i>via</i> Brus- } sells and Arlon by the } Gt. Luxembourg Line, } for Denrées coloniales, } at 25c. per ton	165 "	2 "	fr. 41.25
Saving	265 Miles	20 Days	fr. 17.75 or 14/3 per Ton

The quick boats, or "convoi accéléré," have, it is true, a steam-tug up the Rhine from Cologne, (whither the goods are sent by the Government railroad from Antwerp,) which reduces the distance to about three hundred and fifty miles, and the time to eight days; but the cost is increased to eighty francs per ton to Trèves, to which the eighteen francs from Trèves being added, makes ninety-eight francs per ton. The advantage of the Great Luxembourg over this route will then be one hundred and eighty-five miles in distance, six days in time, and 57f. 86c. or 46s. 4d. per ton.

The City of Metz, with its suburbs, has upwards of seventy thousand inhabitants. The arrondissements of Briey, Thionville, and Metz, traversed by the line, have an aggregate population of three hundred and fourteen thousand, nine hundred and eleven souls; and the "Department" of the Moselle (of which Metz is the Capital), amounts to four hundred and twenty-seven thousand two hundred and fifty inhabitants.

Traffic
Luxemb
to Metz

A statistical account sanctioned by the Chamber of Commerce at Metz, on the 30th March 1844, verified the annual "mouvement" of merchandize at four hundred and twenty-three thousand tons. In the year 1844, Metz received from Sarrebruck two hundred thousand tons of coal, which was consumed in the city and its immediate neighbourhood.

At Ukange on the left bank of the Moselle, and upon the principal road between Metz and Thionville, in April last, it was ascertained by traffic-takers, that in one week, one hundred and sixty Diligences and "mallepostes," and one hundred and sixty-nine private vehicles, with seven steam-boats on the Moselle, conveyed each way, upwards of one thousand seven hundred passengers, besides the usual load of merchandize carried by the Diligences,—and this occurred during a period of diminished traffic.

There passed also four hundred and ninety-eight carts and waggons, with one thousand four hundred and sixty-two tons of various produce and merchandize; also seventy-two barges and fourteen rafts, bearing about two thousand five hundred tons of Coal, Coke, Gypsum, and Timber.

Of the labouring classes (riding and on foot), there passed four hundred and fifty-five persons. These, with the constant changes in the French military (who abound in the Frontier fortresses), give a large annual amount of traffic of both kinds.

That this traffic, both passenger and merchandize, *must* come upon the Rail, will be certain from the following tabular comparison:—

Direction of Route.	Distance in English Miles.	Time in Hours.	Fares.		
			Coupé.	l'Interieure	Banquette.
Metz to Brussels by } Diligence	160	32	fr. 36.70	fr. 32.60	fr. 32.60
			1st Class.	Second.	Third.
Ditto by Railway.....	172	8	fr. 27.85	fr. 19.62	fr. 14
A Saving of, for each Passenger, }Hours		24	fr. 8.85	fr. 12.98	fr. 18.60
Metz to Luxembourg } by Diligence	36	7	fr. 7	fr. 6	fr. 6
			1st. Class	Second.	Third.
Ditto by Railway.....	36	1½	fr. 6	fr. 4.20	fr. 3
A Saving of, for each Passenger, }Hours		5½	fr. 1	fr. 1.80	fr. 3

The Merchandise compares thus, viz. :—

Direction of Route.	Ordinary Charges per Ton.	Charge by Rail per Ton.	Saving by Rail per Ton.
Brussels to Metz	fr. 220	fr. 60	fr. 160
Do. by the slow wagon in 15 days	fr. 120	„	fr. 60 „
Arlon to Metz.....	fr. 70	fr. 20	fr. 50 „
Luxembourg to Metz	fr. 42.5	fr. 12.5	fr. 30 „

Summary of traffic on the main trunk.

The amount of traffic, of all existent kinds, upon the foregoing lines from Brussels, viâ Namur, Arlon, Luxembourg and Metz, is found to amount to the sum of £272,471, when calculated, at the above-named tariff conceded by the Belgian Government.

There is then a gross-revenue for the railroad (as above) £272,471
 And for the Canal (as before shewn) 28,721

Making a total of . £301,192

Making a total of, brought forward, £301,192

Estimating the cost of working the railroad at forty per cent. upon the gross receipts, there will be to deduct £108,988. And taking the working-expences of the canal between Liege and La Roche at £3,000 per annum, the sum to deduct will be 111,988

Leaving a *net* annual revenue of . £189,204

From the estimates of the Company's Engineer, and partially of the Engineer of the Belgian Government, the cost of the lines will be as follows, viz. :—

Cost of
Railway.

Miles.

16.50	From Brussels to Wavre (including the branch to the "station du nord"), and "materiel," or locomotives, &c., for the twenty-two and a half miles of the Louvain line traversed between Wavre and Namur; the length of the Luxembourg line being sixteen and a half miles,	£432,823
18.18	From Namur to Ciney, with a single line of rails; but works and a road for an eventual double line, with locomotive power, &c., complete	240,230
63.59	From Ciney to Arlon ditto ditto .	783,365
12.	The branch to Deulin ditto ditto .	81,660
18.	The branch to Bastogne ditto ditto .	172,800
16.50	From Arlon to Luxembourg ditto ditto .	158,400
36.23	From Luxembourg to Metz ditto ditto .	348,000
<hr/>		
181 miles.	(average per mile £12,250)	£2,217,278
The purchase of the Canal and Mineral property		£260,000
The sum required to complete the Canal to La Roche		120,000
		<hr/>
		380,000
Total cost of canal and railway .		£2,597,278

The net revenue from actually existing traffic, as above explained, is £189,204. This will pay, upon an outlay of £2,597,278, a dividend of £7 5s. 8d. per cent. per annum.

Dividen
from act
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traffic.

But at the rate of increase established by experience, and familiar to those conversant with railroad statistics, there can be

no doubt that this result will soon be doubled. The traffic in Belgium has for several years developed itself by a progressive extension of not less than twenty per cent. per annum. Upon the State railroads, last year, there was a large increase of revenue; but the merchandize-traffic alone was fully twenty-four per cent. more than the year previous.

It is therefore apparent, that all the lines of the original project, as well as the canal, according to the views put forth in the prospectus, sustain the anticipations expressed therein.

Projected extension to the Iron-works, Ludélange, and to the City of Trèves.

But the investigations producing these results have led to a more intimate acquaintance with the countries traversed by these lines, and of their relations to the great lines of central Europe; and in consequence, your Directors desire your consideration of two extensions of the original project, viz. :—

One of about twenty eight-miles from Arlon to Ludélange.

The other of about twenty-nine miles from the city of Luxembourg to Trèves.

Your Directors have obtained surveys and estimates of each of these lines; they have also repeated the same kind of investigation into existing traffic, and the same calculation of its revenue at the conceded tariff, as before explained, and the result has been satisfactory :

A few additional particulars will no doubt be interesting ;

The first extension is intended especially for the Iron district, in the North-east of France. It leaves the station at Arlon, and takes a southerly direction to Aubange, between which place and St. Martin (the two *Frontier* Custom-house stations), it passes into France. It then enters the Iron district, and leaving Longwy a little to the west, runs through the Iron-works at Herserange, and continues, viâ Tiercelet, Crunes, and Aumetz, to Ludélange; where, at present, it is deemed desirable it should stop.

The cost of this extension, with a single line of rails, and provisions for a double one, is estimated at £319,322; that is, £11,507 per mile, including locomotion and "materiel" complete.

The local revenue of this line, taken upon existent traffic, is sufficiently remunerative; but the immense addition of "through traffic" for Coal, upon the Canal from Liege, and on the grand-trunk from Deulin to Arlon, is the influential reason for its recommendation, as will appear from the following explanation :—

Within about twenty-five miles, extending from Longuion to Hayange,

in the department of the Moselle, in the north-east of France, there are twelve Iron works, at present chiefly worked with charcoal. These works produced last year thirty-seven thousand eight hundred tons of Pig-iron, and thirty-two thousand five hundred tons of Bar-iron. The consumption of Sarrebruck coal, last year, was seventy-five thousand tons; but the new furnaces in course of erection, and the extensions in progress, for making bar-iron and rails, will require in 1848, one hundred and sixteen thousand five hundred tons of coal.

The coal from Sarrebruck is of inferior quality, being blended with schist, which prevents the heat requisite for a beneficial manufacture of iron smelted with coal. The proportion of ashes, on the combustion of Sarrebruck coal, is fully one third. Liege coal is highly bituminous, produces an intense heat, and has not more than three per cent. of ashes.

By the formation of this line, Liege coal can be delivered at a central point between Herserange and Ludelage, at the same price as Sarrebruck coal, or, at about 24s. per ton; leaving the entire advantage of *quality* (estimated by one of the principal Iron-masters of that district at fully one fourth), in favour of Liege coal. The anxiety of the Iron-masters of the district to have Liege coal, has an incidental illustration, in an offer from a powerful company there, to make the rails for this branch at almost cost price, and to give a considerable quantity of land adjoining their works.

The one hundred and sixteen thousand five hundred tons of coal above named, would traverse forty-two miles of the canal, and sixty-three miles of the railroad to Arlon, before it entered upon the Ludelage branch; and, at the tariff conceded for each, there would accrue to the income of the canal, £12,135, and to that of the railroad, £48,930, per annum, as "through-traffic," or additional revenue to that part of the original project between Liege and Arlon.

Additional
revenue
which
accrues
mainly
from the
construc-
tion of
branch
Ludelage
and has
much
additional
canal.

The other Extension-line leaves the city of Luxembourg on the north, passes at a permitted distance from the fortifications, and takes nearly a direct course to Wasserbillig, where, crossing the Sur, it continues a level course along the northern bank of the Moselle to Trèves, near to which it crosses the river and has its station adjacent to that of the lines projected from Trèves, viz.—one to Kaiserslautern, to reach the Rhine at Manheim; and the other to Bingen, direct upon Frankfort, the railway route to Berlin.

Extent
the city
Trèves

The cost for a single line of rails, and provision for an eventual double one, with locomotion and "materiel" complete, will be £273,600, which gives an average of £9,600 per mile.

Traffic on the branch to Trèves.

The local traffic upon this line is also remunerative, more so than on the one to Metz; but a similar consideration of "through-traffic" has been influential here, and requires explanation, viz. :—

Trèves—the centre of the district called the Circle of Trèves, which has, including the military, upwards of four hundred thousand inhabitants—is, from the navigation of the Moselle, and its connection with the Rhine, the chief entrepôt for that part of Prussia and Germany.

It annually imports up the Rhine and the Moselle, from Rotterdam and Amsterdam, many thousand tons of "Denrées coloniales," Foreign produce, and Manufactures; but one of the heaviest items of importation is Iron in various forms, from Belgium, England, Scotland, and Wales; which is used and re-manufactured by the Prussian iron works. Large quantities of minerals are also in transit, both up and down the Moselle.

An official memoir of Mr. Von Kühn, a Prussian writer on the progress of the German Zollverien, quoted in the *Times* leading article of the 16th of June last, states the importation of iron and foreign manufactures into Germany for twelve years past; of iron alone, the importation in 1845, was seventy-one thousand four hundred and two tons.

A comparison between the cost of transit by the Rhine and Moselle to Trèves, and by the line of the Great Luxembourg from Antwerp, gives the following results :—

ROUTE.	Distance in Miles.	Time of Transit.	Cost per Ton.
From Rotterdam & Amsterdam, up the Rhine and Moselle, for Iron & Rough heavy goods }	say 400 Miles	20 Days	fr. 41
From Antwerp, via Brussels and the Great Luxembourg line, to Trèves, for a similar class of Goods..... }	194 Miles	2 Days	fr. 32.5
Saving.... {	In Distance 206 Miles	In Time 18 Days	In Cost fr. 8.5, or 7s. 1d.
From Antwerp, via Malines and Liege, to Cologne by Rail: and thence by Steam-tugs up the Rhine and Moselle, to Trèves—for "Denrées coloniales," and Valuable merchandize..... }	350 Miles	8 Days	fr. 80
From Antwerp, via Brussels, Namur and Arlon, by the Great Luxembourg, for a like class of goods..... }	194 Miles	2 Days	fr. 52
Saving.... {	In Distance 156 Miles	In Time 6 Days	In Cost fr. 28, or 22s. 6d.

The importation into Trêves from the Rhine, viâ the Moselle, for the year 1846, was seventy-seven thousand two hundred and ninety-nine tons ; which is that part of the total importation, (viz. Iron and Foreign manufactures, added to “Denrées coloniales,” and other merchandize,) which, from the comparison above, *it is evident*, will have by the Great Luxembourg line a quicker and cheaper route, and one of greater safety for fragile and perishable goods. This quantity, computed at the tariff conceded in Belgium, and for the distances ascertained, as in previous cases, amounts to £32,138. If added to the revenue already stated, it will increase the annual dividend upon the lines of the original project to £8. 0s. 6d. per centum. This, it must be repeated, is a dividend which might be paid out of the traffic at present existing along the lines, presuming them to be now at work ; *but it has neither regard to the stimulus arising during the time allowed for their construction, nor to any subsequent increase.*

The arrangements and investigations above described, have required great exertion on the part of the Board, and a deputation has resided in Brussels for many months, studiously occupied in the promotion of the interests of the Company. A balance-sheet, exhibiting the financial position of the Company, will be laid before the first Annual General Meeting convoked under the provisions of the statutes. In the mean time, it may be satisfactory to the Shareholders to learn, that notwithstanding the extended surveys which became necessary in order to lay down the best course for an undertaking of such magnitude, the current expenditure has not exceeded two shillings and sixpence per share ; and that this outlay might have been nearly cancelled by the interest and profit of exchange accrued from the Belgian Stock deposited as caution money, &c. ; but the Directors have thought it would be more agreeable to the Shareholders to apply these amounts to the payment of interest upon the Shares ; the commencement of which, from the first of January last, anticipates somewhat the usual period.

No further call will be required to be paid during the present year.

It remains only to lay before the Shareholders, materials for forming a comprehensive idea of that brilliant future, which awaits this great and substantial project.

Future prospects and peculiar advantages of the Great Luxembourg Company.

The Great Luxembourg Company has important advantages over the State lines, and the Concessions recently granted in Belgium, viz.

In cost:—The Great Luxembourg, for one hundred and eighty-one miles, will average £12,250 per mile, but for the fifty-six miles of Extension-line, only £10,588 per mile; together, £11,857 per mile. The average cost of the Government lines upon three hundred and forty-seven miles, the greater part of which have only a single rail, has been £17,132 per mile. The average cost of thirty of the principal English railways, (about one thousand five hundred miles), excluding the Blackwall and the Greenwich, has been £43,610 per mile.

In Tariff:—That of the Great Luxembourg from Namur to Arlon is highly remunerative; a comparison with the tariff of the State lines is as follows:—

	1st Class. Penny.	2nd Class. Penny.	3d Class. Penny.
The Luxembourg Line, } per English Mile.... }	1.610	1.127	0.805
The State Lines, per Mile	1. 22	0.933	0.580
In favour of the Luxem- } bourg, per Mile..... }	0. 39	0.193	0.225

Or fully thirty-one per cent upon the passenger traffic,

And in addition, the Directors of the Luxembourg Company have the power to raise their tariff ten per cent. upon passengers and goods of the second and third classes during the six winter months, without giving notice to the Government.

When comparing the fares of the Belgian railroads with those of England, it must be recollected that the Belgian charge for passengers' baggage at the rate of 0,483 penny, per cwt per mile, has been found to add thirty-seven and a half per cent to the first-class fares, and fifty per cent to the second class. The goods-tariff compares with the State goods-tariff in nearly

the same proportion of advantage, and cannot fail to prove equally remunerative.

In Imposts :—The Luxembourg Company, by their “Cahier des Charges,” is exempted from impost of every kind.

The value of this exemption will be appreciated by reference to the *annual* payment in Poor’s rates, Local impost, and Assessments, by *four* of the English companies, in the year 1845, *viz* :—

The Birmingham Amalgamated Company	£96,600
The Great Western Company	58,300
The South Western Company.....	25,575
The Manchester and Leeds Company	21,800

Within the last two years £80,000 have been voted by the Chamber, to form roads in the province of Luxembourg, which will, by the time the railroads are open, prove most valuable auxiliaries, by facilitating local intercourse.

By Article 47 of the “Cahier des Charges,” the Great Luxembourg Company *are guaranteed against competition for twelve years*; at the expiration of which, they are entitled, by the same article, to a preference of every concession demanded from the Government, which can be considered to become a competing line.

The “Cahier des Charges” also secures the free bestowal of whatever Government lands the line of railroad may require; with the usual engagement to return the caution money (in this case £200,000), in proportion as the execution of the works proceeds.

The Great Luxembourg line will be highly beneficial to the North-east of France, and the adjacent countries. The route from these parts and Metz to Brussels, and the Northern coast, has hitherto been, *viâ* Paris and Valenciennes. This distance, when the Paris and Strasbourg line is open, will be from Metz to Paris two hundred and forty-one miles, and from thence by the Great Northern line to Brussels two hundred and thirty-one

miles ; together four hundred and seventy-one miles. The route by the Great Luxembourg line will be only one hundred and seventy-two miles, barely exceeding one-third of that distance !

For Diligence travellers who take the Ardennes route, the comparison will be as shown at page 20.

For Merchandize the economy is yet greater, and appears thus, viz. :—

	By Diligence and the "Roulage accéléré," per Ton.	Slow Waggon in 15 days to Brus- sells—per Ton.	The Rail per Ton.	Saving per Ton.
Metz to Brussels	fr. 220	fr. 150	fr. 60	fr. fr. 160 & 90
Metz to Arlon...	fr. 70	fr. 50	fr. 20	50 & 30

The port of Havre, viâ Rouen and Paris, supplies the North-east of France with nearly the whole of its consumption of "denrées coloniales," and foreign produce. The distance by rail, when the Paris and Strasbourg line is open, will be three hundred and eighty miles ; but the port of Antwerp, viâ the Great Luxembourg line, will be only two hundred miles ! Assuming the same tariff and speed for both routes, they are in the proportion of nineteen to ten, the saving being nearly fifty per cent. A similar proportion will, of course, obtain for passengers. But this economy will extend far beyond Metz. If Havre and Antwerp be regarded as in competition for the supply of these countries, it will be clear, that for ninety miles towards Paris, or, as far as "Bar le Duc," along the Paris and Strasbourg line ; and, for a *much greater* distance southwards and eastwards, Antwerp viâ the Great Luxembourg line, will be the cheapest of the northern ports. To extend this comparison, it will be apparent that Antwerp must eventually supply a surface of country of many hundred square miles, viz. Lorraine and Alsace in France ; Switzerland and the Grand Duchy of Baden, the Grand-Duchy of Hesse Darmstadt, Wurtemberg, and Bavaria, including towns of great importance, such as, Verdun, Nancy, Toul, Luneville, Vesoul, and the iron-works at

Colmar; also Basle, Zurich, Freiburg, Strasbourg, Carlsruhe, Mannheim, Stuttgart, and Ulm, which, with their arrondissements, include an aggregate population of many millions.

As a route for travellers from England to Switzerland and Italy, the Great Luxembourg saves a considerable distance.

The ordinary route from London, viâ Southampton, Havre, Paris, and Nancy, to Strasbourg, upon the presumption of a Rail for the entire distance, will be 650 miles.*
The route, viâ Dover, Ostend, Brussels, Namur, Arlon, and Metz, will be 540

Being a saving between London and Strasbourg, by the Great Luxembourg line, of one hundred and ten miles.

The latter route has the advantage of a sea passage, only *one-third* the duration of that between Southampton and Havre; it traverses a country of great geological peculiarity, beautiful scenery, and historical interest. For those travelling by "Diligence" to Brussels and the Northern ports, the advantage is not less striking, as appears from the following table, viz:—

Route.	Distance in English Miles.	Time in Hours.	Fares.		
			Coupè.	l'Inter.	Banquète.
Strasbourg to Brussels by Diligence	270	51	fr.57.70	fr.50.60	fr.47.60
Ditto ditto, taking the Great Luxembourg line, at Metz			1st Class. fr. 49	Second. fr.34.30	Third. fr.24.50
A saving for each Passenger .....	.... Hours.	38	fr. 8.70	fr.16.3	fr.23.10
Nancy to Brussels by Diligence	165	37	fr.43.2	fr.38.10	fr.38.10
Ditto ditto, taking the Great Luxembourg line at Metz			1st Class fr.34.5	Second. fr.24.15	Third. fr.16.25
A saving for each Passenger .....	.... Hours	28	fr.8.7	fr.13.95	fr.21.85

* The route by Shoreham and Dieppe, (when the communication is regular), will materially reduce this distance.

Further
remarks
on proposed
Extension
to Trèves.

The Directors desire now to revert to Trèves, with additional reasons for their recommendation of an extension from Luxembourg to that city.

For the information of their Shareholders, they deem it needful to enter into an explanation of the position Trèves has recently taken, in relation to the Great Luxembourg, and other lines of central Europe. The Prussian and Bavarian Governments have united and guaranteed a minimum revenue to the Company, who are executing the line from the coal mines at Sarrebruck, through Kaiserslautern, to the Rhine, at Manheim, a distance of about seventy-five miles, which will be open to the public in 1847.

Presuming the Great Luxembourg line to have its terminus at Trèves, the link from Treves to Kaiserslautern, will *alone* be wanting to complete the great chain of communication from Brussels, viâ the Ardennes, to Manheim on the Rhine. Your Directors have had communication with a Committee at Trèves for the formation of a Company to execute this most desirable line, or last link, of about fifty-five miles in length. It is expected the Prussian Government will assist, as in the instance just named; but the interest of the Great Luxembourg Company, in the prolongation of their line to Kaiserslautern, *is so great*, that the Directors would like to be empowered to aid this project, with a moderate subscription for shares, if it should be deemed expedient. From the City of Trèves, there is also in progress a line to Kreuznach and Mayence, connecting Trèves with Frankfort. This, with the German lines already open, will evidently complete a direct railway route between Berlin and Paris; and establish the importance of Trèves as a terminus of the Great Luxembourg line.

The Great Luxembourg line will then have its Trèves-terminus, within ninety-three miles of the Rhine, at Manheim; making the distance from Brussels to Manheim, two hundred and fifty-seven miles. But a further benefit is about to accrue at the northern end of the Great Luxembourg project, by the construction of a direct line between Brussels and Ghent; a purpose which has already received the favourable regard of

the Belgian Government. It results, therefore, that between Ghent on the Belgian State line, and Manheim on the Baden State line (bordering the Rhine), there will be two hundred and eighty-seven miles; which may be traversed in a period of only nine hours, at an ordinary railroad speed; a fact leading to the consideration of Mr. Waghorn's route, from Ostend to the Adriatic, which involves, especially, the time and distance between Ghent and Manheim.

A report upon the interesting question of a direct route to India, is in the hands of the Directors, for perusal by any Shareholder, and from it, a few brief selections, bearing directly upon the aid afforded to Mr. Waghorn by the Great Luxembourg line, will now be made. On a public occasion in January last, Mr. Waghorn declared his decided preference for the German over the French route, "even," he said, "if there existed *one continuous rail* from Marseilles to Boulogne." At the same time, he expressed his conviction, that he should, before the year closed, complete his arrangements for a regular communication with India, in twenty-one days. In his description of a recent journey from London to Trieste, he allowed fifteen hours (excluding stoppages), from London to Cologne; the route being, by the Belgian State railway from Ostend, running through Ghent. From Cologne he passed to Manheim, which requires at least twenty hours additional; making together thirty-five hours; of which time the distance from Ghent to Manheim (about three hundred and thirty miles), would occupy twenty-five hours. Now so long as Mr. Waghorn continues to embark at Trieste, Manheim, which is nearly a middle point between the North sea and the Adriatic, will be on his best and most convenient route; and it is between this place and Ghent, that the Great Luxembourg line, as before described, will become necessary to his rapid journeys.

Over
Route
India.

The comparison of his recent route, and that projected, will be thus:—

	Hours.	Miles.
From Ghent, viâ Cologne, and thence, along the Rhine to Manheim, the best present route	25	330
From Ghent, viâ Brussels direct, along the Great Luxembourg line to Trêves, and thence, viâ Kaiserslautern to the Rhine at Manheim	9	287

Being a saving in .. } Time of 16 hours.
 } Distance of 43 miles.

Another route for Mr. Waghorn (which may eventually prove his best and quickest), will be to disembark at Venice; take the railroad recently opened to Milan; and from thence cross the Splügen or Mont St. Bernard to Chur upon the "Haut Rhin;" whence a railway is projected to join that about to open from Zurich, by which he may reach Basle or Wiell, the respective termini of the French and Baden railways bordering opposite banks of the Rhine. From these stations, Mr. Waghorn will have a choice of routes to England. The first, from Basle, viâ Strasbourg, Paris, Boulogne and Folkstone, it being presumed the Boulogne passage will secure the quickest journey. Second, from Basle also, but diverging from the Paris and Strasbourg line, on the branch to Metz, where he would take the Great Luxembourg line to Brussels, and thence, *via* Ostend and Dover. Third, from Wiell, up the Baden State line, to Manheim; where, viâ Kaiserslautern, he would enter the Trêves terminus of the Great Luxembourg line, and be conveyed to Brussels and Ostend, as above. A few years will complete railway lines for the whole of each route; and in the comparison which follows, the distances are those which will occur on the rail. Time is not stated, as all are assumed to have an equality of speed.

The first route then has..... 710 miles.

The second, taking the Great Luxembourg
line at Metz 610 ,,

The third, taking the Great Luxembourg
line at Trèves 635 ,,

Hence by the French, or first route, there is the disadvantage of their rigid passport and custom-house regulations, and an additional distance of one hundred miles, as compared with the second; and seventy-five miles, over the third. But between the second and third the advantage is with the longer route, inasmuch as the shorter will encounter the delays of a passage through France; while the longer, with the immunities of the Zollverein through Germany, Prussia, the Grand Duchy and Belgium, will economize in time, a compensation more than equivalent to its greater length.

Your Directors hope they have made it apparent, that the Great Luxembourg is destined to become *the direct line between London and the Adriatic*; and that from whatever quarter its termini may be approached, its location in Central Europe is sufficiently advantageous to ensure its universal use.

The Indian Mail now passes each way, at intervals of three weeks; on each journey, it carries about forty thousand letters, which with newspapers exceed three tons in weight.

In leaving the question of the Indian route, your Directors decline, thus early, any definite expression on the subject of revenue. A hasty glance at the number, extent, and cost of our communications with India; the frequency of the Government despatches; the transit of passengers; and the constant demand for rapid intelligence; will, however, convey some idea of its importance, to a line of near two hundred miles in length. If, again, it is considered, that a reduction of time and cost will produce an incessant additional interchange of

valuable and fragile products, commensurate with the wants and luxuries of England, her Western colonies, and Eastern possessions; that is, of a wealthy and mercantile population of upwards of *One hundred millions*, it is obviously prudent to avoid anticipation, and to await that developement which time alone accomplishes.

In conclusion, with such a career before them, your Directors confidently appeal to the Proprietors for their support in carrying out an enterprise which they believe, in value and importance, to be *second to none* of those Great European lines which have been laid down upon the most judicious principles, and have proved so lucrative to all engaged in their construction.

We are,

Gentlemen,

Your obedient Servants,

F. F. de CLOSSMANN, *President.*

J. H. ATTWOOD.

T. H. BLUCK.

JAMES BRAND.

WILLIAM EVANS.

RICHARD HEAVISIDE.

CHARLES LYALL.

WILLIAM MAGNAY.

JOHN MASTERMAN, Jun.

HENRY SIMONDS.

London, Royal Exchange Buildings,
July, 1868.

The Report having been read to a very numerous and highly respectable Meeting of Shareholders, held at the London Tavern, Bishopsgate Street, on Tuesday, 14th July, 1846, the following Resolutions were carried unanimously, viz.—

Proposed by JAMES ANDERTON, Esq.

Seconded by JAMES LYS SEAGER, Esq.

“That the Report now read be received, adopted, and printed, for circulation among the Proprietors.”

Proposed by CAPT. BAGUE, R.N.

Seconded by JAMES D. DE VITRÉ, Esq.

“That the cordial thanks of this Meeting be given to the Chairman and Directors, for the zeal and ability with which they have so successfully conducted the affairs of the Company.”

Proposed by Mr. ALDERMAN SIDNEY.

Seconded by The Rev. Dr. WORTHINGTON.

“That the remarks of the Chairman be printed for distribution with the Report.”

F. F. de CLOSSMANN, *Chairman.*

1000

THE

RAILWAY PORTFOLIO.

THE

RAILWAY PORTFOLIO.

EDITED BY

HYDE CLARKE, ESQ.

VOLUME I.

1846.

LONDON:

RAILWAY REGISTER AND RAILWAY HERALD OFFICES,

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JOHN WEALE, 59, HIGH HOLBORN.

MDCCCXLVI.

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**STEAM-PRESS OF W. H. COX,
5, GREAT QUEEN STREET.**

ADDRESS.

THE principal object of the *Railway Portfolio* is to serve as a record of the prospectuses and other documents of Railway and Joint Stock Companies, and preserve them in an accessible form. This will be a work of considerable extent, and require a long time for its development; but each number and each volume will stamp a value upon its predecessors, and constitute a whole, which, if not complete, will always be found of value to those having occasion to consult a collection of this nature.

Although the object is new, and to some it may appear trivial, yet we feel justified in the attempt, by the authority of several leading parties in the railway world, and by the demand for such a work. We have not therefore to make an attempt how far a work of this nature will be successful, but to comply with a want which has been already expressed. At the same time we think it right, on the present occasion, to state our intended course, and we feel it our duty to make every exertion for the proper execution of such an undertaking. We shall rely more upon the future result of those exertions, and the practical experience derived from them, rather than attempt to win our way by making pledges and promises, when performance is the true test of sincerity, and the best inducement to public support.

Did we limit our work to the one object already expressed, we should produce a mere dry compilation or digest, which, however useful as a work of permanent reference, would be so far wanting in interest as not to tempt the immediate application of the reader. In the course of time, the proper development of our primary object will lead to explanations and elucidations, to supplemental narratives and to criticisms, necessary to the true usefulness of the work, and which would relieve its dullness; but as we have great confidence, and the sincerest promises that this work will have a valuable circulation among men of leading influence in the railway world, we shall have the opportunity, of

which we shall avail ourselves, of discussing such general questions as may be of importance at the moment, or of permanent interest in the illustration of railway progress.

While we hope to obtain for this the character of a useful work, we have no less confidence that we shall, by due exertion, make it a readable work, and one which will claim present attention, and also a regular place on the library shelves.

With the progress of the railway system, we shall have the opportunity of presenting the prospectuses of future Companies as they appear ; and, in many cases, we shall be able to illustrate them by the prospectus maps of the line, so that the volumes of the *Railway Portfolio* will in the end form an illustrated record of an important branch of railway economy. As these works will be properly indexed, each volume will form part of a uniform series, and constitute a work indispensable for the railway administrator and shareholder.

Our collections will extend over the whole range of railway speculation in 1825, in 1835, in 1845, and in the intermediate periods, as well as in the future. For these purposes we have large materials already available ; but as the carrying out of such an enterprise on any extensive scale can be greatly aided by the co-operation of others, we particularly request that at all times we may be favoured with the communications and suggestions of all those who are desirous of promoting the utility of our work. For the gift or loan of prospectuses and other documents, we shall feel truly obliged ; and we invite the contributions of gentlemen who may have either collections or single copies likely to be useful. We also request the favour of having access to the collections of official documents which many Companies possess, and which have been carefully formed by some of the secretaries ; being, in many cases, the only record of documents, once trivial, but now important.

As a literary work, the *Railway Portfolio* will particularly attach itself to the consideration of those leading questions and principles which affect the railway system generally. The time has now come, when, with the advancement of the railway system, the determination and investigation of general principles of action and administration are of growing importance, and the consideration of them is of essential interest to the railway manager and shareholders.

The guiding principle to which this publication will be devoted, is the maintenance of railway property under independent management, and the protection of vested interests ; but with a particular regard to

the development of the system in accordance with the sound dictates of political economy, and the legitimate requirements of public accommodation. There is no time more than the present when such an advocate is required; for the disposition to underrate and depress share property and share transactions, on ill-conceived and ill-founded pleas, has assumed such a shape, and led to such results, as to cause the most serious anxiety. From time to time, during the last few years, Government departments have also made such attempts at interference, and with such evil consequences, as to require a special vigilance on the part of the railway interest and its organs, to detect and guard against any new attempts.

There is a want of knowledge among public men as to the true causes of railway operations, and there is a consequent want of confidence. Nothing can show this more strongly than the course adopted with regard to the railways by the Prime Minister of the country, at the opening of the present parliamentary session. Without any investigation as to the extent to which railway undertakings really absorb the capital of the country, taking figures which do not represent facts, and taking erroneous impressions as solid truths, one of the first and most enlightened statesmen of the day—one particularly liberal in his railway legislation—has virtually conceded the point, that the extension of the railway system will press upon the resources of the commonwealth. Anything like a rigid investigation into the real facts and figures of the question has never been attempted; and, though complex, the materials for an approximate, perhaps an accurate solution of the question, are to be readily found. Certainly, before we assume such a fact as that a pressure can take place, we are bound to ascertain the actual state of the matter—it is our duty to sit down and calculate the present actual cost of railway constructions. It appears very well to say, that a railway costs so many thousand pounds per mile; but that does not and cannot represent the real expenditure to the nation. Let us know how many navigators are employed in digging the cuttings and raising the embankments, and the number of men required to make the rails; and if we find, as we shall find, that the number of those individuals is relatively very small, it may shake our confidence as to the assumed results. But if we ascertain, not the money earnings of those individuals—not the profits of the parties engaged—but the quantity of bread and meat consumed by them; when we come to the rude elements of expense; we shall then be in a position to estimate the extent of real drain on the resources of the country.

Having obtained the amount of produce required to be supplied, and we know it to be relatively small, it will admit of further investigation to ascertain whence the produce is obtained, and whether it does constitute a real drain upon the national resources. It may, however, happen, from a variety of causes, that no interference takes place with existing modes of employing capital; or even if it were ascertained that an interference did take place, it would become worthy of inquiry, whether railway extension were or were not a preferable mode of the employment of capital to that with which it might interfere. Instead, however, of public men thinking it worth while to inquire or reason as to railway subjects, they are quite satisfied to assume what has no foundation, and to believe what cannot be proved; and thereby the railway interests most materially suffer from improvident and vexatious legislation.

In all periods of prosperity the railway advance has been accompanied with evils, arising from the interested designs of ignorant or ill-advised persons, whose misdeeds have been made grounds of accusation against the railway system generally; and whose misfortunes, the natural punishment of their own misconduct, have been laid at the charge of others instead of themselves. To repress, as far as possible, such evils, by detecting their origin and illustrating their progress, is an object of urgent importance to the railway interest, and as to which the public mind requires not to be alarmed, but enlightened. It is essential, also, as a protest, that, in recording the projection of illegitimate undertakings, they did not receive the concurrence of the public authorisation.

The connection of one branch of joint stock enterprise with another, the common danger to which each is subjected by Government interference or public ignorance, constitute a bond of interest, which will be further strengthened among all classes of shareholders by the occasional discussion of topics of interest or importance affecting other joint stock companies.

Such are the views with which we start. At the end of the year we hope it will be found that we have acted up to them, or that, where we have not, we have done the public service in some shape, equally profitable or more useful.

THE
RAILWAY PORTFOLIO.

PROGRESS OF A BUBBLE.—THE DIRECT LONDON AND
EXETER RAILWAY.

Exposition of the Circumstances attending the Promotion and General Management of the Direct London and Exeter Railway, showing its present Condition and Prospects. By D. E. COLOMBINE, Esq.
London : Effingham Wilson, 1846.

THERE are various kinds of bubbles : there is the *bubble* bubble, destitute of all honesty, all solidity,—

“ — the baseless fabric of a vision ;”

and so in various degrees to the bubble which has honest promoters and an impracticable basis, and the bubble which, with a good basis, has unskilful or dishonest managers. The scheme of a Direct London and Exeter Railway was not in itself impracticable ; but when an undertaking of this nature was started against two powerful Companies, it required the support of men of the highest financial standing, and greatest practical ability, to ensure its success. Wanting these, it was from the first regarded as a bubble, and it has not since bettered its reputation.

The starting of bubbles is looked upon by the multitude as one of those halycon proceedings, whose event is uninterrupted success and showers of golden coin to the arduous bubble-blowers, however untoward to those who step in afterwards. The toils of bubbledom—the anxieties, the intrigues, the disappointments—are things but little known, for we have few narratives of them. Mr. Colombine's pamphlet may lend us a text-book on this matter, and one not idle to the careful learner. The tale is one which must be learned over and over again, before the truth will be got at. The general impression will undoubtedly be, that which Mr. Colombine himself conveys—that he has been very badly treated ; but the why and wherefore that he should be so treated, in the honest and earnest endeavour to carry out a great undertaking, are what we do not at first get at. It seems a denial of those moral laws which govern human society with a stronger sway than human laws, to believe that industry and perseverance can so far miss their reward, when applied to a purpose neither immoral nor injurious. If, however, bubblemongers indulged themselves in airy speculations as to the theory of morals, or the intellectual governance of the world, or any of those abstract doctrines which it is the business of very few to seek after, and of no one to apply, they might get at a very good lesson, but

which, as it would strike at the root of bubblemongering, would be most difficult to believe—at which, indeed, the ardent mind would recoil, and try to smother up its own too ready credence.

We are so prone to love idleness and to dislike work—to look out for sudden strokes of wealth, rather than to the slow-grown fruit of long-tried industry—that we ever hear with distaste the warnings of those who gainsay our passions, while we run a-muck under the leadership of those who promise us luck in any of the several ways which this kind of superstition has pointed out as the sure paths to sudden wealth. We begin our childhood, in hopes that the elves and fairies will, unbidden, do our tasks, and with lavish goodness throw open their stores of hidden wealth in gems and gold. For a long time, perhaps to the day of death, we await the rich unknown uncle or kinsman, who is to come from the golden Indies, and pour his treasure into our greedy laps. We go through life looking for streams of luck, for the finding of wealth, for the fortune of a sudden chance, which is to make us, and to save all further toil; we never look with half the confidence for the sure reward of steadfast labour, as we do for the casual return for idleness and improvidence. Luck's all; and practical gambling well beseems the dreamy air-drawn schemes which make the way for it. The making of gold out of brass, finding everlasting motion, the philosopher's stone, squaring the circle, the lottery, and all these things, are only different ways in which the same spirit breaks out, and to which railway gambling is to be added as a new shape, but cut out of the very same block, and graved with the very same tools.

Our faith goes a very great way, and a faith in the wealth-making powers of bubblemongering is an article of national belief. The day when this fancy was not known, we hardly dare say; but the first authentic sketches we have of the follies of life in the early drama, show us the projector as he is now—not, perhaps, looking to a joint-stock plan of carrying out his notions (though there were such things in the days of good Queen Bess) but hunting after some powerful courtier, who, by taking up his scheme and getting a monopoly for it, was to enable him to heap riches suddenly at the cost of the commonwealth, and to turn his paper into gold. The carelessness which leads a man to a bad choice in his scheme of livelihood, makes him no more careful in the fellowship which he calls to take part in his labours; and here we get at the beginning of that machinery, by which the further and greater the progress of the bubble, the surer is the projector of not making the fruit of his labours. He has stepped, as it were, into a noose, which, drawing closer and closer, hugs him at last, and strangles him; while his pangs are greater as his reward always seems close at hand to him, and often within his clutch; and yet he ends by losing it. He may labour hard and fast; he may toil for a bubble as he would never have toiled in any common kind of work; but, toil as he will, he never gets a lasting reward—what he touches shrinks from him; or, if he does grasp anything, it melts.

Mr. Colombine's pamphlet is a tale truthfully told, which will show the cogency of these remarks, and how the short and royal road to wealth is proved, and how those fare who are travellers upon it. Here was a man who worked hard day and night; who did nothing immoral, nothing dishonest; was fair, liberal and high minded in his dealings; as far remote from the popular notion of a schemer, as his reward was

different from the popular notions of the coin in which scheming is repaid. Mr. Ancrum schemes a direct broad gage railway to Exeter, Falmouth and the west, and takes the idea to Mr. Colombine, who has better means of carrying it out. Here we have step the first, and we must try Mr. Colombine: he did not weigh materially the difficulties of the undertaking, and how much the true way was beyond his means to compass; but, trusting to the goodness of the scheme as sure to bring it success, he grapples with it at first. If Mr. Colombine had paused at the first step, he would scarcely have taken up with the scheme, or scarcely trusted to such rotten sticks as those on which he leaned as the platform of his tower of strength. Mr. Colombine had, it seems, another turn of mind, and gave the first hint for the neglect with which his own merits were treated by his way of treating Mr. Ancrum. Mr. Ancrum, in his own mind, of course thought himself the father of the scheme, and the first wheel by which all the mill-work of fortune was to be set agoing; but Mr. Colombine, having once undertaken the fostering of the bantling, and charged himself with its nurture, considered himself as the real parent, and so afterwards named himself. Yet Mr. Colombine never thought that he was either overrating his own claims and rights, or underrating those of Mr. Ancrum.

Mr. Colombine and Mr. Ancrum next bestirred themselves to get together a committee; and whether from want of judgment or from carelessness of choice, they named parties who could scarcely have been worse assorted. One of them, who took upon himself to be chairman, tried to juggle Mr. Colombine out of the solicitorship, and replace him by his own advisers; and finished by taking an allotment of one thousand shares. Others took their due part in the allotment: one was a superannuated half-pay officer, another a barrister, and a third was an idle young man about town. Persons so ill chosen, and who would not have been allowed to open their mouths among men of business, were just the parties to presume whenever they were intrusted with power, and Mr. Colombine had soon bitter reason to regret his want of foresight. For him, their founder, they cared nothing, but they cared a great deal about themselves. Some jobbed in shares; some jobbed in the Company's money, some in its patronage, and one in its advertisements, which he claimed for a pseudo railway paper of his own. To make the matter worse, they ill-treated Mr. Colombine at his own expense; for as they had not contributed one farthing, and would have been among the first to creep out of any liability, so the whole brunt and burden fell upon his shoulders.

Mr. Colombine toiled as if he had got straightforward men to deal with, and as if success in promoting what he considered a great scheme, would have been sure to have given him an ample reward. His scheme was treated in all quarters with ridicule and scorn, as being a bubble, and as never likely to be anything else; still he persevered. He wrote pamphlets, he attended meetings, he canvassed personally, he sent letters, and left no means untried of getting strength for the undertaking. In this endeavour his perseverance, by little and little, achieved success; he obtained the support of some of the local men, received the unusual honour of placing on his provisional committee the name of a gentleman well known as connected with the *Times* newspaper, and began to make a more decent show before the world. Meanwhile the railway mania was at its height; applications for shares tumbled in; the

committee took heart, and seeing that there was something to be got, determined to have it for themselves, and that Mr. Colombine should have as little as well might be.

In the month of May, Mr. Colombine began ; and, after up-hill work, by the month of September the full tide of success, as he believed, came rolling in upon him ; as it turned out, however, it was the season of reverse. The committee down to this time had done nothing useful, and did little that was useful afterwards ; but in September they began active operations on their own account, and after some smart squabbling among themselves, and the consequent retirement of two of the most respectable members, the dirty work began in earnest.

On the 4th of September, a memorable day in the annals of the Direct London and Exeter Railway, Mr. Colombine returned from an active canvass in Cornwall, and met his committee, which reinforced itself by a gentleman, who afterwards hoisted Mr. Ancrum from the post of Secretary, which was his due. Five of the luminaries of the Committee met, each of whom afterwards distinguished himself in the spoil of the Company, and they directed their wits to the subject of the promotion of the undertaking, during which discussion, with becoming delicacy, they requested Mr. Colombine to withdraw. The result of this complimentary course was, the expression of a decided opinion, that it was inexpedient for the committee to take any step whatever in carrying the objects of the undertaking until "the line," or, in other words, the whole concern, was surrendered into their hands. They found that they had been put in the position of committee-men ; they began to understand each other ; they saw that applications for shares were pouring in ; and without the least regard for obligation, honour, or anything else, they determined upon getting everything into their own hands, and turning Mr. Colombine out. As Mr. Colombine seems to have been actuated by a sincere desire to carry out the undertaking in a legitimate manner, and consequently opposed any improper proceedings, it is by no means unlikely, that to get rid of him was esteemed as much a matter of necessity as of choice, being an obstacle in the way of improper conduct.

Mr. Colombine may well say he felt somewhat surprised at this course of turning him out of his own berth ; and he addressed a letter of remonstrance, signed September 8. In this letter, he claims the merit of the undertaking, and of having procured the provisional committee, with the exception of four procured by Mr. Ancrum. Some of these, he stated, he had obtained through a friend. His own views as to remuneration he mentioned, were, that he should receive 1,500 shares, deposit paid up, or £2,062 10s., as a reward for his share in the promotion ; of which he was pledged to give 250 to the before-named friend, who had aided him in getting committee-men. Mr. Colombine further expressed himself satisfied to undertake the joint-solicitorship of the undertaking, and to be paid his costs when there were adequate funds in hand. For Mr. Ancrum he asked 500 shares, deposit paid up ; the secretaryship ; and £500 in money when the bill was passed. These are terms which we think very fair ; for however parties might grumble about Mr. Colombine having £2,000 for scheming, yet projectors must be paid, and it is better to pay them in money than to allow them too great influence in managing a concern ; and £2,000 was not too large a compensation for the risk Mr. Colombine had run, the responsibilities

he had incurred, and the labour and skill he had devoted to bringing the concern to its then flourishing and palmy state.

On the 8th September, the committee met, when Mr. Colombine was again asked to withdraw, and the committee set their wits to work ; the upshot of which was, that they modestly asked Mr. Colombine to take 1,000 shares, or £1,375, and pay the debts of the Company out of it.

On his declining this proposition, and refusing to have anything to do with the debts, the committee met on the 12th September, when it was ascertained the total expenditure and liability was £2,600, including £1,500 for advertisements. Mr. Colombine was again turned out; and, on being recalled, the chairman wished to have his own solicitors, the highly respectable firm of Elmslie and Preston, placed as solicitors in the prospectus instead of Mr. Colombine. Mr. Colombine naturally refused to concur in this, but still expressed his willingness to act as joint-solicitor ; but would not sacrifice his reputation by retiring completely from the concern.

On the 17th September, Mr. Colombine addressed a letter to the meeting on that day. In the course of this he claims the parentage of the line, and rather lowers Mr. Ancrum's merit. He says, "You are aware that, beyond the single circumstance of the ingenious hint given to me by Mr. Ancrum, I am the *parent* of the line." Could we dive into their thoughts, it would very likely be found out that the committee, instead of holding either Mr. Ancrum or Mr. Colombine to be the parents of the line, held themselves to stand in that capacity.

Mr. Colombine goes on to deprecate a measure so unheard of as the removal, without cause assigned, of the chief promoter of the undertaking, and affirms that the public had subscribed as much on the faith of his being the solicitor as of the others being the committee; indeed, he says, he holds his office by almost a higher right than that by which there was a Direct London and Exeter Railway Company, or by almost a higher right than that by which the committee-men held their places. This may seem an assumption ; but we consider that Mr. Colombine was right, and that he would have been fully justified, under the circumstances, in repudiating the then committee, forming a new one, and laying the circumstances before the public. He was not appointed by the committee, but he had appointed them—both acted in a provisional manner, and both depended on the final authorisation of a body of shareholders.

At this meeting of the 17th September, Mr. Colombine again offered to divide the solicitorship with Messrs. Elmslie and Preston, but the chairman positively refused, and required Mr. Colombine to make an offer; to which he replied that he had none to make. This part of the transaction is not amongst the least curious, and is well deserving of attention. The committee, finding Mr. Colombine firm, and knowing that they could have no warrant from the public or the shareholders for dispossessing him, made him an offer of 2,000 shares, or £2,750, with a seat at the board, if he would resign the solicitorship to the parties they named.

This novel kind of job, which would have looked curiously on the Company's books, Mr. Colombine had the manliness to refuse, intimating that the threat held out of the withdrawal of the committee would not alter his determination, and that he could only regret if he was deprived of the assistance of any of the members. The committee, as craven as

they were insolent, now acceded to Mr. Colombine's original terms, after all their bluster; and a memorandum of agreement was signed, by which Mr. Colombine was to receive 1,500 shares, or £2,062 10s., and to act as joint-solicitor.

At this time, the committee, who assumed to themselves such airs, had not contributed a shilling, and could not raise one for the concern; and the applications for shares were coming in at the rate of 40,000 in a day. Mr. Colombine took the necessary steps, formed registers of applicants, and obtained a gentleman of competent ability to superintend an active inquiry into the capacity of the parties applying.

The committee having finished the intrigue as to the solicitorship, had now time to bethink themselves of the surveys, which they thought the character and extent of the applications for shares warranted them in undertaking. From this, however, we must express our total dissent; for we do not think any provisional committee justified in beginning surveys before allotment, unless they either put down the money, or applot amongst themselves the requisite responsibility. A rash mode of acting on this head has indeed been among the chief causes of the distresses which have attended the breaking-up of new undertakings.

Mr. Braithwaite had been appointed engineer, and as early as the 4th September, was applied to to enter into a contract for the expenses of the surveys. This he declined, and, we think, prudently; for however right it may be for a Company with means in its hands to enter into a contract of this kind, yet, where there are no funds and no certainty in the payments, nothing can be more precarious. The expenses depend, to a great degree, on the supply of money; and even in this case they were increased nearly £2,000 by the delays of the committee. On the 8th and 12th September, although Mr. Braithwaite attended the committee, the matter was delayed by their squabbling about the solicitorship; and on the latter day they refused to see him, after keeping him two hours in waiting. When the committee wanted him, at the end of September, Mr. Braithwaite was down in the country; and the end was, that the beginning of the survey was put off from the 4th September to the 10th October, more than a month lost, and a large expense incurred. In the meanwhile, the expenses of surveyors and lithographers had fearfully increased from the prevailing competition.

To set the engineer going, money was wanted, which the chairman had affirmed could be borrowed from the London and Westminster Bank, but which was, of course, not forthcoming; and Mr. Colombine had, therefore, to raise a thousand pounds on his own responsibility. The representation that any respectable bank would advance money for the promotion of a bubble, if not intended for purposes of intrigue, shews the capacity of the committee-men who could believe in such monstrous nonsense. It is well known that, at that period, as at all times, the greatest indisposition prevailed among bankers to aid unformed undertakings; for such advances are not among the legitimate purposes of banking, and would reflect discredit on the firm which made them.

The surveys were now set afloat, and a new change took place in the solicitorship by Messrs. Stokes, Hollingsworth, Tyerman, and Johnstone taking the place of Messrs. Elmslie and Preston, as joint-solicitors. Another change, which, had it occurred earlier, would have been beneficial, was the retirement from the chairmanship of Mr. Dowglasse, in

consequence of squabbles with his worthy colleagues about the appropriation of patronage.

The allotment of shares had at length begun, and the allotment committee felt that they had full swing. The chairman of the body determined on allotting as he liked; another member took upon himself to act as secretary; a third secured an allotment of one thousand shares; a fourth, who never ought to have been on any committee at all, was turned out by his brethren; and the two others were contented with sharing the spoil. The allotment took place right and left; the lists of applicants were turned off; an immense number of letters was left unopened; and the committee announced their intention of doing without the inquiries which had been instituted as to the character of applicants, and to allot upon lists formed by themselves. The local agents and local parties were thrown overboard, and a scramble began for the shares. Mr. Colombine's request for an allotment of 500 shares was put off till after the letters had been issued, and then ungraciously tendered. The letters of allotment, instead of being issued in one day, for which the 11th October was named, were issued during the whole week; and there can be little doubt that some wholesale jobbing prevailed, as a finance committee was formed—not for the purpose of looking after the accounts, but for the novel purpose of drawing checks. This was named on the 16th October, and consisted of the allotment committee and two others.

Immediately after this, operations began. Checks for £300 and £400 were drawn, as a beginning; but the progress of the account is hitherto involved in obscurity; a sum of £800 is dubious, and also one of £1,500. On the 23rd October, £5,000 was drawn by the finance committee, of which, in some unaccountable manner, £4,000 was drawn by certain members of the finance committee, and placed in their names as individuals in another bank. The shares were at one time at $\frac{1}{2}$ and $\frac{1}{4}$ premium, and there can be no doubt but that some operations were carried on by the committee either with a view to their own private purposes, or to play tricks with the concern. But, however, by this time the panic had begun, and through the gross bungling but a very small number of shares had been paid up.

The plans, in three instances, were not deposited until after midnight on the 30th November, and so much of the expenditure already incurred was frustrated. From this time the committee managed no better; and on the 15th December a meeting of the shareholders was held, when the state of affairs came before the public, though the committee painted themselves as angels.

Let us now witness the reward of Mr. Colombine. His 1,500 shares, paid up, were never allotted to him, and they afterwards tried to commute them for 1,000. A check of £500 was given to him for expenses, and another for £812 was drawn by the committee, and charged in the accounts to the shareholders as paid; but which, not being signed, Mr. Colombine has never received. Mr. Colombine's letter, claiming the payment of this amount, remains to this day unanswered.

Out of 58,000 shares allotted, 35,460 remain unpaid; and out of £30,000 raised, scarcely enough remains to pay the expense of winding up the concern, while even the means of retrieving it are totally neglected.

The Direct London and Exeter Railway remains a melancholy proof of bubble management; and Mr. Colombine's pamphlet is a memorandum which ought not to be forgotten by those who believe, that an original vice may be remedied by subsequent care, and that there is a sudden way of growing rich without being prudent.

The amount paid up was £32,395. The expenses,—

	£	s.	d.
Preliminary expenses, including £812 charged as paid to Mr. Colombine, but never paid over	4,344	11	3
Engineering and surveying	14,050	0	0
Law expenses	8,791	6	0
N.B. The notices were never served.			
Advertising	2,639	19	4
Printing and stationery	584	0	0
Travelling expenses	236	0	0
Rent and salaries	557	15	5
Miscellaneous	168	3	1
Dr. by Blundell (not accounted for)	512	10	0
Balance in hand	492	14	11

No books were kept, or secretary appointed.

As the following will further elucidate the mode of conducting the business of the Direct London and Exeter Railway, and will explain Mr. Blundell's position, we copy it from a railway contemporary:—

"Sir,—I request of you, in your next publication, to contradict the statements made in your journal of the 19th December, 1835, in giving a report of the proceedings of a meeting of the shareholders of the Direct London and Exeter Railway Company, which took place at the London Tavern on Monday, 15th December, 1845, wherein it is stated, 'not accounted for by Dr. Blundell, £512 10s.' In refutation of such statement, I beg to lay before you and your readers the following facts, which will enable them to judge of the falsity of such assertion:—

"On the 16th October last, I was requested, as secretary to the finance committee, to purchase shares on its account, as they said 'something must be done with the market,' to keep them at a premium, in order to induce the public to pay the deposits. This was done; and, among other items of outlay, the sum of £363 12s. was expended in purchasing letters of allotment, before the scrip was ready for delivery, or the deed prepared for signature.

"This order was also extended to scrip, and many purchases were effected by myself and other members of the finance committee; and a premium of 10s. and upwards having been obtained, deposits to the amount of £32,000 were paid in; the subscribers having been encouraged to do so on discovering the progressive improvement in the value of scrip.

"The members of the finance committee who had been engaged in these operations, were called upon to furnish their accounts to the board, which was done, and the whole of them passed; and, as it was thought desirable to dissolve the finance committee, and transfer the balance remaining in its hands to the general account, I was paid a balance due to me by two cheques of £124 0s. 7d., one being for £124, and four days after by another for 7d.

"Subsequent to these proceedings, I had determined to abstain from attending again at the board for the present, in consequence of the chairman and two of the new members of the board having attempted

to repudiate part of the transactions of the finance committee, the effect of which was to throw upon me a liability to the amount of £512, although at this period all accounts had been passed, and the balance paid me.

“A dispute between us having now arisen, and it being intended to call a public meeting of the shareholders for the purpose of acquainting them with the prospects and state of affairs of the Company, I mentioned to some friends of mine the attempt that had been made to throw upon me a heavy pecuniary liability, and fully intended to have addressed such meeting, which was held at the London Tavern, on the 15th December last, but the following extract from a letter from Mr. Pottinger Harris (to whom both parties had appealed) will explain the result :—

“Pending the negotiation for a settlement of the disputes between you and your brother directors, I think you would not be justified in addressing the meeting *against* the interests of your colleagues.’

“And, in consequence, I abstained from addressing the meeting, particularly as no personal attack was made upon me.

“On the Wednesday after the meeting, I received an intimation to the effect that a resolution for my removal had been passed, and a letter was written to Brigadier-General Sir Henry Pynn, by Mr. S. Pottinger Harris, of which the following is an extract, dated December 18, 1845 :—

“I forbear, Sir Henry, to offer any remarks upon the justice or prudence of such a step, or of the absence of the customary courtesy in the method of imparting to Dr. Blundell your resolution, for I am not the adviser, the advocate, or the apologist of that gentleman ; but having, at your and Mr. Evans's reiterated solicitation, taken a part in the measures for the settling these disputes, and having likewise the interest of the project at heart, although but a small holder of the Company's scrip, and still regarding the negotiations as existing ; I must confess, Sir Henry, that I can only regard the hasty determination of the board as imperatively requiring Dr. Blundell to vindicate his conduct as a director, and to explain the cause of his separation from the management of the Company.’

“Extract from a letter from Mr. S. Pottinger Harris to Sir Henry Pynn, dated December 23, 1845 :—

“Dr. Blundell is anxious for the opportunity of publicly refuting the statement, which accuses him of being a defaulter in the finance department to the extent of £512, which, Sir Henry, I am bold enough to state, is *untrue, and ought not to have been made*, as the “purchased” letters of allotment were exhibited to you in my presence, and to one of your brother directors, and for which Dr. Blundell paid upwards of £360, proof of which is at hand.’

“From these extracts from the correspondence which has taken place, your readers will perceive that it is untrue, and incapable of proof, that I am a defaulter in any respect whatever, and I am content to leave the terms of my refutation of the charge in your hands ; and it was not until the receipt of the following letter that I was aware that the paragraph of which I complain had appeared in your columns :—

(COPY)

“Grove Terrace, St. John's Wood, 29th Oct., 1845.

“Dear Sir,—I have only this moment had my attention called to the paragraph in the *Sunday Times* of the 21st instant, which purports to be a narrative of a meeting of the shareholders of the Direct London and Exeter Railway, held at the London Tavern, on the 15th instant, and as the chairman, Sir Bruce Chichester, did *not* confer upon you the invidious distinction of separately mentioning your name, or declare that *you individually* were a defaulter in the finance department of the Company's concerns, I am sure you will not suffer so serious an accusation to remain uncontradicted, particularly as you have irrefutable evidence at hand of the utter fallacy of such a charge!

“The account of the “purchased letters of allotment,” made by Mr. Palmer, by the secretary's order, appears clear and intelligible; the unquestionable motive of *that* expedient being to effect a progressive advance of premium of the Company's scrip, in fact, to enhance the price of that article; but “the panic” having frustrated your ingenious devices (far more clever in the system than honest in the principle), repudiation of your acts follows, and you must become suddenly transformed from an “efficient secretary,” to a “peculating defaulter,” with a liability of £512 cast upon your responsibility!

“Either the directors, or you, have exhibited a very deplorable “freshness” in this business, the predominating colour in the picture being “green;” and the sooner your reputation is cleared, and the attack upon your integrity repulsed, and your name freed from the foul aspersion, the better. I do not see how I can deny you the right to publish the whole or any part of my correspondence, nor can I perceive how any person can justify the libellous statement of which you complain.

“I have the honour to be,

“Yours faithfully,

(Signed)

“S. POTTINGER HARRIS.

“To Dr. Blundell.”

(COPY)

“Oct. 16th, 1845.

“Mr. Palmer,—Buy allotment letters on account of the finance committee, 700 or 800 shares lowest price of the day; to regulate your transactions, say 14s. to $\frac{1}{2}$ maximum.

(Signed)

“E. S. B.

“Sec. *pro tem.*”

“E. J. BLUNDELL Esq., IN ACCOUNT WITH H. PALMER.

1845.

Dr.

Oct. 16, 17, 18, 20.—To 840 shares in the London and Exeter Railway Company, by order of the Company, at 14s., 12s. 6d., 10s., 8s. 6d., 8s., and 4s., agreeable to your respective orders, being an average of 8s. 2d.

per share	-	-	-	-	-	-	-	£342	12	6
To my commission, as per agreement, 6d. per share	-	-	-	-	-	-	-	21	0	0
								£363	12	6
To cash received this day (H. P.)	-	-	-	-	-	-	-	£7	13	6

1845.	<i>Cr.</i>					
Oct. 16.	By cash advanced	-	-	-	-	100 0 0
—	”	-	-	-	-	18 10 0
17	”	-	-	-	-	9 9 0
—	”	-	-	-	-	10 0 0
18	”	-	-	-	-	21 0 0
—	”	-	-	-	-	42 10 0
27	”	-	-	-	-	11 0 0
Nov. 4.	”	-	-	-	-	18 10 0
—	”	-	-	-	-	62 10 0
—	”	-	-	-	-	62 10 0
6	By Balance	-	-	-	-	7 13 6
						<hr/>
E. Ex.						£363 12 6
“Nov. 6, 1845.”					(Signed)	“H. PALMER.

“With every apology for not giving you an earlier opportunity for correcting the erroneous statement,

“I remain, Sir,

“Your obedient servant,

“EDWARD BLUNDELL.

“P.S.—Mr. Healey, Mr. C. Spicer, and Mr. Evans purchased shares at a high premium largely for the Company, which have been paid out of its funds. Why should I be made the scapegoat, and allow them to repudiate mine?”

Our contemporary observes :—

“As we have already given publicity to the charge made against Dr. Blundell of having been a defaulter to the amount of £512, we willingly give insertion to the above explanatory statement. This statement, it will be seen, fully exposes a system of the most corrupt mismanagement, unscrupulously pursued by the directors of the Company. Those even who were, although the self-constituted, yet the recognised guardians of the interests of the shareholders, directed certain members of their body to buy up the letters of allotment, even before the scrip was prepared, in order that a fictitious value for the shares might be created in the market; in the hope that, when by this means they had been raised to a high premium, they might then be enabled to sell out the 60,000 reserved shares, and reap a profit (supposing the premium to be at £3) of £130,000. And how was this done? With that portion of deposits which had been paid into the bank. Is it possible to imagine conduct more disgraceful than this? We make these remarks on the faith of Dr. Blundell's statement being correct. At present we see no reason to doubt its accuracy. On the contrary, it bears about it all the evidences of truth. There is one point, for instance, strongly in his favour, namely, the fact of the directors handing to Dr. Blundell a check for 7d. This was manifestly a closing of the account with him, and, at the same time, an admission that he was not a defaulter. In addition to this, Dr. Blundell states that, three days previously to the meeting, Mr. Harris waited on him with a proposition in writing from the board, offering him £105 and a letter of thanks for his services, which he declined to accept. It is not likely that such an offer as this would have been made, if the board really regarded Dr. Blundell in the light of a defaulter. We have on many previous occasions stated our opinion

that this has been the most grossly mismanaged Company of the season. Everything that is daily coming to light, only tends to confirm us in this conviction; and we do sincerely trust, for the sake of public justice, that the directors will be made to suffer in their own pockets for the egregious and disgraceful blunders which they have committed."

(PROSPECTUS.)

**DIRECT LONDON AND EXETER RAILWAY COMPANY,
WITH EXTENSION TO FALMOUTH AND PENZANCE.**

Through Hammersmith, Turnham Green, Brentford, Isleworth, Hounslow, Staines, Egham, Bagshot, Ascot, Bracknell, Binfield, Wokingham, Kingsclere, Andover, and Salisbury; Shaftesbury, Sherbourne, Yeovil, Crewkerne, Axminster, and Honiton, to Exeter.

CAPITAL, £3,000,000, in 120,000 Shares of £25 each.

DEPOSIT, £1 7s. 6d. per Share.

With power to raise £1,000,000 more, if necessary.

(Provisionally registered, pursuant to 7 & 8 Vict. c. 110.)

OFFICES—52, Regent Street, Waterloo Place, adjoining the County Fire Office.

PROVISIONAL COMMITTEE.

- ¹ The Right Hon. the Earl of Mexborough, Dover Street, Piccadilly, Director of the Direct London and Manchester Railway.
- ² Lord Henry Loftus, Belgrave Square.
- ³ Sir Henry Hervey Bruce, Bart., Montague Square, and Downhill, Londonderry.
- ⁴ The Hon. Cecil J. Lawless, 71, Pall Mall, Director of the Great Manchester, Rugby, and Southampton Railway.
- ⁵ Colonel Sir Frederick Hankey, G.C.M.G., Queen Ann Street, Cavendish Square, Director of the Ionian and Ceylon Banks, and Bordeaux, Toulouse, and Cette Railway.
- ⁶ J. R. Phillimore, Esq., LL.D., 42, Clarges Street, Chancellor of Salisbury.
- ⁷ J. D. Chambers, Esq., Lincoln's Inn, Recorder of Salisbury.
- ⁸ Brigadier-General Sir Henry Pynn, 19, Clifford Street, Director of the County Fire Office, and South Midlands Railway.

¹ Did not pay upon his shares.

² Did not pay.

³ Ditto.

⁴ Ditto.

⁵ Elected a member of the committee of management on the 4th September.

⁶ Appointed a member of the new committee of management and investigation.

⁷ Ditto, a holder of 150 shares.

⁸ Had 150 shares allotted to him, and paid upon 50. A member of the Committee of management of five, on Sept. 4th, and of the finance committee. The party who refused to sign Mr. Colombine's check.

- 9 Sir Raymond Jarvis, Fair Oak Park, near Winchester, Director of the Manchester and Southampton Railway.
- 10 The Hon. A. Capel, Theyden House, Essex, and Park Street, Grosvenor Square.
- 11 Charles William Spicer, Esq., 28, Portman Square, Director of the Manchester, Southampton, and Oxford Junction; Warwick and Worcester; Shropshire Mineral, and Grand London and Dublin Approximation Railways.
- 12 William Burge, Esq., Q.C., Temple.
- 13 The Rev. Bouchier Wrey Savile, Oakhampton, Devon.
- 14 G. Thompson Jacob, Esq., Blandford, Magistrate, and Deputy-Lieutenant for Dorset.
- 15 Richard Francis Roberts, Esq., Burton Bradstock, near Bridport.
- 16 H. H. Hungerford, Esq., Dingley Park, Market Harborough, and Dover Street, Piccadilly, Director of the Leicester and Bedford Railway.
- 17 Francis Dawson, Esq., Grosvenor Street.
- 18 Richard Francis Power, Esq., 73, Eccleston Square, and Long Orchard, Tipperary.
- 19 Lieutenant-Colonel P. W. Pedlar, Mutley House, Devon.
- 20 Thomas Dowglasse, Esq., Marlborough Place, St. John's Wood, Director of the Great Eastern and Western, and Manchester and Birkenhead Continuation Railways.
- 21 Walter Shairp, Esq., Sussex Gardens, Hyde Park, Director of the Oxford, Southampton, and Portsmouth Railway.
- 22 The Hon. Henry Savile, Dover Street.
- 23 A. W. Hillary, Esq., 66, Cadogan Place.
- 24 W. L. Pope, Esq., Woodford, Essex, Director of the Oxford, Southampton, Gosport, and Portsmouth Railway.
- 25 George Evans, Esq., Milbury Terrace, Regent's Park, Director of the London and Holyhead Railway.

¹⁰ Did not pay up.

¹¹ Did not pay up on his allotment, but took 50 shares, and said he had bought 700 shares. A leading member of the original committee of management of five, and one of the finance committee, on account of whose absence the committee adjourned from the 12th to the 17th September.

¹² Did not pay, but did not apply for shares.

¹³ Did not pay.

¹⁴ Did not pay.

¹⁵ Ditto.

¹⁶ A member of the committee of management, but did not attend; a holder of 50 shares.

¹⁷ Did not pay.

²⁰ Did not pay on his allotment. One of the original committee of five on the 4th September, chairman of the concern, one of the allotment and finance committee; had an allotment of one thousand shares as a compensation.

²¹ Chairman of the allotment committee; a member of the finance committee. Was elected on the 4th September.

²² Did not pay.

²³ A member of the managing committee; out of town during the chief proceedings. Took 50 shares and bought 1,000.

²⁴ A member of the managing committee of five on the 4th September; of the allotment and finance committees; afterwards turned out.

²⁵ A member of the managing committee of five, on the 4th September; of the allotment and finance committees; only took up 50 shares out of his allotment, but said he had bought 450.

- ²⁶ Francis Lloyd, Esq., Temple, London, and Bingley House, Birmingham.
²⁷ William Thomas Davies Lhoyd, Esq., Lhoydiarth, Anglesey.
²⁸ E. S. Blundell, Esq., 18, Lower Seymour Street.
²⁹ John Allen, Esq., 12, Gloucester Terrace, Kensington.
³⁰ William Birmingham Costello, Esq., M.D., Wyke House, Brentford.
³¹ T. Piers Healey, Esq., Elm Court, Temple.
³² Wm. Gunston, Esq., Piccadilly.
³³ ——— Roxburgh, Esq., 28, Bloomfield Road, Maida Hill.
³⁴ A. Abrahams, Esq., Member of the Town Council of Southampton.
³⁵ Wm. Lowton Jones, Esq., Wood Hall, Hilgay, Norfolk.
³⁶ Thomas Champion, Esq., Stockwood House, Dorsetshire.
³⁷ Capt. T. Forde, Gracefield, Aslane, Dublin.
³⁸ Capt. Sir Andrew Pellatt Green, R.N., K.C.H., 9, St. James's Street, St. James's Park, Director of the Australasian British North American, and the Ionian Banks, and Director of the Mutual Life Assurance Company.
³⁹ Charles Gover, Esq., City Club.
⁴⁰ J. Lane, Esq., LL.D., King's Bench Walk, Temple, and Keppel Street.
⁴¹ George Waite, Esq., Old Burlington Street, Director of the Cheltenham and Brighton Railway.
⁴² James Macmillan, Esq., Southampton, Director of the Worcester, Warwick, and Rugby Railway.
⁴³ Arch. Drummond Stewart, Esq., Grandtully Castle.
⁴⁴ The Hon. Stafford Jerningham, 44, Brook Street.
⁴⁵ John Blunt, Esq., Director of the London Docks.
⁴⁶ James Gernon, Esq., Vice-Chairman of the Galway and Ennis Grand Junction, and Director of the London and Nottingham.
⁴⁷ William Bastow, Esq., Director of the Worcester, Warwick, and Rugby Railway.
⁴⁸ Robert Bastow, Esq., Director of the Great Eastern and Western Railway.
- ²⁶ Did not pay.
²⁷ Ditto.
²⁸ Did not pay on his allotment. A medical man, a member of the allotment and finance committee, appointed Hon. Sec. by his colleagues, but afterwards removed from the committee. Returned on the accounts as debtor for £512 10s. not accounted for.
²⁹ Did not pay.
³⁰ Ditto.
³¹ Did not pay. A member of the managing, allotment and finance committees, turned out in consequence of a row, and raised an opposition against the committee of management.
³² Did not pay.
³³ Ditto.
³⁴ Ditto.
³⁵ Ditto.
³⁶ Ditto.
³⁷ Ditto.
³⁸ Ditto.
³⁹ Ditto.
⁴⁰ Ditto.
⁴¹ Ditto.
⁴² Ditto.
⁴³ Ditto.
⁴⁴ Ditto.
⁴⁵ Ditto.
⁴⁶ Ditto.
⁴⁷ Ditto.

- ⁴⁹ John Greatheed, Esq., 133, Piccadilly.
⁵⁰ Captain James Edward Carnegie, Somerset Street, Portman Square, and Bruce Hall, near Inverness, Director of the Reading and Reigate and Guernsey Railways.

COMMITTEE OF MANAGEMENT.

- E. S. Blundell, Esq., 18, Lower Seymour Street.
 Thomas Dowglasse, Esq., Marlborough Place, St. John's Wood, Director of the Great Eastern and Western, and Manchester and Birkenhead Continuation Railways.
 George Evans, Esq., Milbury Terrace, Regent's Park, Director of the London and Holyhead Railway.
 Colonel Sir Frederick Hankey, G.C.M.G., Queen Ann Street, Cavendish Square, Director of the Ionian and Ceylon Banks, and Bordeaux, Toulouse, and Cette Railway.
 T. Piers Healey, Esq., Elm Court, Temple.
 A. W. Hillary, Esq., 66, Cadogan Place.
 H. H. Hungerford, Esq., Dingley Park, Market Harborough, and Dover Street, Piccadilly, Director of the Leicester and Bedford Railway.
 Brigadier-General Sir Henry Pynn, 19, Clifford Street, Director of the County Fire Office, and Director of the South and Midlands Railway.
 W. L. Pope, Esq., Woodford, Essex, Director of the Oxford, Southampton, Gosport, and Portsmouth Railway.
 Walter Shairp, Esq., Sussex Gardens, Hyde Park, Director of the Oxford, Southampton, and Portsmouth Railway.
 Charles William Spicer, Esq., 28, Portman Square, Director of the Manchester, Southampton, and Oxford Junction, Warwick and Worcester, Shropshire Mineral, and Grand London and Dublin Approximation Railways.

With limited power to add to their number.

ENGINEER—John Braithwaite, Esq., C.E., 4, Trafalgar Square.

BANKERS—Messrs. Curries and Co., 29, Cornhill; London and Westminster Bank, St James's Square.

SOLICITOR—D. E. Colombine, Esq., 8, Carlton Chambers, Regent Street.

Prospectuses and plans of the line, with forms of application for shares, may be had at the offices of the Company, as above, and of the following Stock and Share brokers, viz.:—Messrs. Sutton, Gribble, and Sutton, Royal Exchange; Messrs. Taunton and Bush, Austin Friars, London. Also, Exeter, Henry Vatcher, John Langworthy, Wilkinson and Sons; Bath, J. B. Munday; Leeds, Potter and Co., Kirk and Co., Ridsdale and Co.; Huddersfield, William Moore and Co.; Derby, Eyre and Shaw; Hull, Sibary and Simpson, Samuel Phillip; York, Grayston and Earle; Wakefield, Henry Billingham; Plymouth, Hopwood and Palmer; Cheltenham, Hall, Brothers, and Co.; Newcastle-on-Tyne, W. W. Dickin-

⁴⁹ Did not pay.

* * Sir Bruce Chichester afterwards joined, and became chairman of the new committee of management. A holder of 200 shares.

Messrs. D. W. Cox, of the Temple, Wyndham Anstruther, W. A. Hill, H. L. Dumper, A. E. Greaves, G. Moore, T. Paul, and J. T. Raworth, afterwards joined, but did not pay up on their allotments.

son, R. F. Bell and Co.; Birmingham, W. H. Collis; Taunton, Richard Ball; Shaftesbury, Raymond and Son; Manchester, Myers and Birkbeck, William Marshall Cardwell and Sons; Norwich, John R. Mann and Sons, Edinburgh, Muard and Co., A. W. Moffatt; Bristol, Luke Arnold; Coventry, John Thomas Holland; Gloucester, J. M. Balme; Glasgow, Messrs. H. and W. A. Tassie, James Watson, Thomas Gray; Leicester, Williams and Sunderland; Nottingham, Roworth and Shepperly; Liverpool, Messrs. Sudlow, Brothers; Halifax, H. C. Spenser; Bradford, Yorkshire, W. Mason, James Clayton; Reading, B. Cowderoy; Settle, Joseph Nelson.

The following gentlemen are among those appointed as local agents in furtherance of the interests of the Company, from whom prospectuses and applications for shares may also be obtained:—Egham, Thomas Harvey, Esq.; Bagshot, John Mears, Esq.; Bracknell, Charles Cave, Esq.; Wokingham, Francis Soames, Esq.; Salisbury, Henry Cooper, Esq., Messrs. Foot and Radcliffe; Shaftesbury, Messrs. Wills and Burrigge; Sherborne, George Hancock, Esq., Samuel Foot, Esq.; Bruton, Messrs. Dyne and Son; Yeovil, George Hancock, Esq.; Crewkerne, Robert Lowman, Esq.; Axminster, Walter Hancock, Esq.; Blandford, George Moore, Esq.; Dorchester, George Cull, Jun., Esq.; Bridport, S. H. Gummer, Esq., Henry B. Fox, Esq.; Honiton, Isaac I. Cox, Esq.; Lynn, George Platten, Esq.; Lyme Regis, N. F. Waring, Esq.

FORM OF APPLICATION FOR SHARES.

TO THE PROVISIONAL COMMITTEE OF MANAGEMENT OF THE DIRECT LONDON AND EXETER RAILWAY COMPANY.

Gentlemen,—I request you will allot me _____ shares, of £25 each, in the above Railway, and I undertake to accept the same, or such less number as you may appropriate to me, subject to the regulations of the Company, also to sign the necessary legal documents, and to pay, when required, the deposit thereon of £1 7s. 6d. per share.

Name in full
 Profession (if any) and Profes- }
 sional Residence in full }
 Residence in full
 Reference

Date

Signature of Applicant

DIRECT LONDON and EXETER RAILWAY COMPANY,
 (with Extension to FALMOUTH and PENZANCE).—NOTICE is
 HEREBY GIVEN, that NO further APPLICATIONS for SHARES
 in this undertaking will be RECEIVED after the 30th instant.

By order of the Committee,

D. E. COLOMBINE, Solicitor.

52, Regent Street, Sept. 20, 1845.

DIRECT LONDON and EXETER RAILWAY COMPANY,
 (with Extension to FALMOUTH and PENZANCE).—The Com-
 mittee of Management of the above Company, in order to remove any
 possible misapprehension in the minds of the public, beg to assure the

landowners and others interested in this undertaking, that the Engineer of the Company, John Braithwaite, Esq., and his assistants, are now actively engaged in completing the necessary surveys, in order to comply with the Standing Orders of Parliament.

By order,

D. E. COLOMBINE,
ELMSLIE and PRESTON, } Joint Solicitors to the Company.

Direct London and Exeter Railway Company,
Offices, 6, Great Winchester Street, Broad
Street, and 52, Regent Street, Sept. 25, 1845.

WHAT CHANCE IS THERE ?

THE one question now affecting railway men is the state of the market, and its future prospects. People begin at length to believe that there may be a future of prosperity, and that, after all the alarm and suffering of the past, there may be a return to a sound and steady state. The growing belief in this is one of the chief steps towards its accomplishment; for if people had not allowed themselves to be frightened out of their wits, the late misery and extreme depression could neither have existed nor prevailed. In such matters, however, thinking goes but for very little with the mass; they mostly get some one else to think for them, or else they never think at all. Some operate because every body else does; some because Tom Noddy does so and so; some on their broker's advice; some on private information; but very few on their own advice. They go into the market leaning on a reed, and placing faith in it as a staff; and when a real emergency happens as the test, they find out it is a reed, and cut and run without caring what may befall them. This was the way in the late panic. The bank altered the rate of interest: neither Tom Noddy, nor the broker, nor the newspaper, nor the banker had provided for this; and the poor speculator, left to his own wits, being unable to make out what he ought to do, and being unwilling to resort to his first adviser, listened greedily to the *Times*, which preached national ruin—the bears, who predicted a fall, and operated for it—and “my grandmother,” who said, that if railways were carried out, they would supersede coaches, and this was against the law of nature. The furred gambler found that he had been absorbing national wealth, and that the payment of his deposits to the Accountant-General—which the same authorities told him existed, and did not exist; was absorbed, and not absorbed—was to produce the end of the earth—a locking up in Chancery of all the farthings and halfpence in the country, and a national bankruptcy—everybody walking about without money in his pocket, and the whole population reduced by summary process to a state of barter.

The alarm of 1845 is one of the curiosities of popular superstition, and a disgrace to any educated community. Its history, taken from the columns of the *Times* newspaper from January, 1845, to February, 1846, would give such damning proofs of public ignorance, that we feel ashamed such a record should go down to posterity. That the direct

alarm prevailed we should have convincing proof, as well as that much property was sacrificed, and many people ruined; but what tangible cause there was for this we should have the greatest difficulty in discovering. The change in the bank rate of interest we should find inoperative; the effects produced by the deposits in the hands of the Accountant-General we should ascertain to be null; but we should find that one set of parties had sounded the alarm, and others had given way to it, and that it was really and truly a panic fear which had prevailed. It is a well-ascertained and well-known fact, that money has not for months been so abundant on the Stock Exchange, nor at so low a rate, as during the panic; and if the rise by the Bank of England were to have produced an injurious effect on the Stock Exchange, it ought to have been by making money scarce, and by raising the rates there.

If the directors of the Bank of England had, as was attributed to them, the desire of crushing speculation in the share markets, they have signally failed in their object, for money is begging on the Stock Exchange; and the very abundance of money would, without other causes, be sufficient to promote an active state of speculation. Nothing could have been worse timed than the action of the Bank of England, if a preventive effect had been desired; as for some time previous to the panic, notwithstanding the increase of business, successful efforts were being made in leading quarters to effect a diminution of the rate of interest, though prices then were far from being high. There was a tendency, not to high rates, but to low rates; there was no tendency to withdraw money from other markets, but to transfer it to them; and from the peculiar circumstances under which money is supplied to the Stock Exchange, and from transactions there being limited to certain parties, it must have been foreseen that a restrictive operation would fail. High rates on the Stock Exchange may, it is true, draw money from other markets, but the prevalence of high rates forms of itself a natural curb or check on speculative operations, while the prevalence of a low rate encourages speculation. There is a certain class of dealers and a certain amount of capital belonging exclusively to the Stock Exchange, and operating there in preference. If, therefore, you place them under such influences that their capital becomes a drug on the market, they will be the more readily disposed to encourage speculative transactions. As the rate on the Stock Exchange involves two elements, the mixed interest in capital and the wages of labour, the rates are naturally higher there than in other markets; people depend on it as an employment and a subsistence; and for a mere temporary purpose they cannot and will not go to another market, or, in other words, engage in a new employment. If you check the application of capital in particular branches of the cotton manufacture, parties are induced to engage speculatively in others with a view to keep up their employment in the same business, and identical causes operate on the Stock Exchange. There are what are rightly called moral elements at work, which limit the mere pecuniary operations.

If the causes assumed for the panic are baseless and, indeed, ridiculous, the manner in which the restoration of confidence has proceeded is equally offensive to our common sense. As the change in the rate of interest by the Bank of England served as the *motif* for the panic, so Sir Robert Peel's return to power served as the *motif* for

the rise in prices. So long as Sir Robert Peel was in power, and so long as his rule appeared established beyond all present chance of disturbance, the herd of gamblers held his financial and political abilities in no esteem at all, but they ran mad with the panic, threw themselves into the jaws of the bears, and gave themselves up to ruin. As the effect of intrigue, Sir Robert Peel resigns office. Lord John Russell has the tender of it, and the misery is aggravated. We can understand this—we can believe that one blow on the back of another will aggravate the ruin, but we are amazed when we contemplate the results of Sir Robert's return to power. The gamblers are differently moved: they find a kind of providential influence attending Sir Robert Peel—the man whom they denounced as a quack and a traitor last month, they now feel convinced has sovereign powers; in his hands are the balances of peace and war, the national fortune and the national fate, and we place implicit belief in his sole ability—we sue him to help us whom we so lately spurned. Man shakes hands with man—he blesses his lucky stars Sir Robert has condescended to come back to office, and the halcyon days have begun. There is a kind of *numen* which attaches to Sir Robert—we shall swear by him, *tuò numine* will be our address to him, if we do not stone him next month, or bespatter him with mud speedily hereafter.

Let this be as it may, the miracle is done—the disciples of mesmerism are prepared to work their own cures, and we must bear with them. The change in the stock and share markets has been already very great. Consols have risen, English shares and first-class scrips are at healthier prices, and the foreign share-market has completely revived. The great capitalists, who had received their allotments of Constituted or Definitives only to feel the lot of Tantalus, to have the cup and fruit offered to their lips, and to lose it when they tried to taste, have got a temporary respite of real enjoyment. Nothing could be more amusing than the lot of those who were regarded as the lucky holders of so many original Great North of France, or Paris and Lyons. A capitalist got as his share one hundred, five hundred, five thousand, or fifty thousand Great North of France originals. He saw the market price touch 15, 16, and 17 premium; and just as he had reckoned up his gains—his tens of thousands or hundreds of thousands—the panic came: London and Paris felt it, the market fell from under him, and a poor 5, 6, or 7 premium was all that awaited him. Thanks to Sir Robert Peel's return, matters are now safe, and the cloud has passed away, while the horizon clearing up.

Moral influences have the greatest effect on the Stock Exchange, and in their operation lies the real difficulty in the way of speculators. To learn the key to these will be to possess the philosopher's stone; and the possessor may claim the perpetual motion at the same time. There are cultivators of the science, who gave safe and certain advice to neophytes; nay, there are books on the subject—your "Safe and Sure Guides to Railway Speculators;" there are Royal Napoleon Dream Books, the Complete Art of Magic, and treatises of chiromancy; yet who, with all these catchpennies, has been able to put their teachings into a practical shape, or who is there to come forward and attest the benefit he has derived from them? Greedy fools buy share guides and dream books, but the whole and sole difficulty is how to apply them;

and that no one can tell, or would tell if he could. The pith of one catchpenny is, to buy cheap and to sell dear,—the way, we believe, that Rothschild said a fortune could be made by selling matches, if enough could be sold of them ; but Rothschild did not tell the dowager that the great art was in selling enough of them. If share-gamblers could tell when things were cheap, and when the markets would rise, they might proceed with some hope of profit ; but here, let them have some share of ability and some share of sense, they get baffled in their operations by sudden rises and sudden falls—storms coming on suddenly when there is no speck on the horizon—and they lose, where others reap the whirlwind, and garner from the storm.

A sure and royal guide to speculation, purchaseable at a cheap rate, within the means of all classes, is a desideratum in popular literature and national economy ; but we believe it has never struck those who still expect the advent of a kind of millennium in the publication of such a work, that its publication would be attended with its own defeat ; for as every one would possess this compendious mode of growing rich, and all would operate upon it, the nation would become like the celebrated community of the monkeys, each enriching himself out of his fellow's locker, and having his own rifled contemporaneously. It comes back, therefore, to the old story, that there is no royal road of getting rich by share-gambling, any more than by lotteries, or pea and thimble, or martingaling *rouge et noir* tables, or by horse-jockeying, or by any other of the various devices which have prevailed, as popular panaceas for enabling the greedy, the idle, and the dishonest to enrich themselves at the expense of their neighbours. The legitimate operations of the money market can only be conducted in the same way as other honest pursuits, by labour, intelligence, perseverance, and integrity ; and then they become worthy of respectable men, and their results are the increase of national wealth by the due application of labour and intelligence. The envy which would depreciate this class of industry is allied to the ignorance which represents every commercial man as being a diminisher of the public wealth and a burden on it, instead of its active producer.

Although the disturbing influence of human passions and human actions on the operations of the money market is so irregular and so uncertain, that its time and mode of action cannot be foreseen, yet this circumstance neither constitutes the main feature of the money market, nor does it involve the impossibility of carrying on safe and certain operations of a continuous character, or render the money market the battle-field of chance. The groundwork depends on other circumstances and the operation of other causes within the reach of close observation, and on which the other operations ramify, as it were, parasitically. To the permanent causes in operations we must look to enable us to form any steady judgment, and we need not be deterred by the fear of temporary influences, which, though they disconcert temporary operations, do not affect those on a more extended scale.

Those who have had their minds bewildered by the late ups and downs in the markets may have lost all faith in a principle of stability, and may have resigned themselves to the influence of chance ; but those who are willing to reflect, will look carefully to the present state of affairs with a view to determine the future prospects. To the sound operator the future is of much more interest than the present ; to the

ignorant gambler the present influence is all; he has risked and involved himself on the chance of one event, and he has no means of righting himself even if the next year should give harvests of gold. A Birmingham, Great Western, or Midland share has the same intrinsic value at par or at cent. per cent. premium, and its intrinsic value is affected by very different causes from its money value. The same is to be said with regard to scrip. On the whole, scrip was not at an unhealthy price on coming out, for there must be a compensation to parties for signing the deeds; and those who wish to get a good investment, and yet avoid the risk of signing the deeds, must always pay for it.

What may be called the parliamentary price is another thing. Every one knows that all the Companies cannot carry the day—that various accidents will occur to prevent many from going to Parliament; and those which fail must necessarily be at a heavy discount, as the money they have expended is generally lost. Much mischief has been done by the wilful perversions of facts propagated by the bear interests and their organs, and the public delusions which are consequently kept up. Persons who pay down their deposit on a railway, consider themselves as running the risk of losing the whole in the attempt to get an act, and do not consider that they thereby at once acquire the certainty of having to carry a whole railway out.

Standing orders have been framed, and popular outcry has been stimulated, on the supposition that each individual contract constituted an aggregate of responsibility on the nominal capital subscribed for, and one false form serves to nourish a multitude of erroneous assumptions, which often involve a mischievous practical shape. If this part of the question be examined carefully, we shall get an answer to those who assume that hundreds of millions are involved in railway projects, and that the necessary funds cannot be found for carrying them out. Taking every case in which two, three, or four Companies are contending for a line of any value, it must be assumed that in each Company there are some parties competent to go on with their shares to carry out a railway. One Company gaining the line, the others will be virtually dissolved, and their capitalists being then released, will be at liberty to purchase into the winning Company, and according to the number of sellers and number of purchasers there will be the means for some of the original speculators to go out, and for those to take their places who are willing to go on. The fact of a man signing a number of deeds for £20,000, £50,000, or £100,000, is no measure of his liability; for the measure of his liability will be very much lower. Under average circumstances, his liability will be very low, as but few Companies succeed in any one year in obtaining an Act of Parliament. If, however, out of a given amount of subscriptions dispersed over a variety of deeds, the signer should get a large average of Acts passed, then he must have property of greater corresponding value to dispose of, as those Acts which are passed are, on the whole, for practicable and paying lines, and he has the means of going into the market and freeing himself from his surplus liabilities.

Taking scrips on the whole, and the prospects of the session, there is every reason to believe that a very large number of Acts must be passed, and taking the improved condition of railways, the growing reduction in the working expenses, the increase of traffic, and the

diminution in the fares, there is no question that, as an investment generally, railways are much better than they were in any previous year.* Of course lines which fail will be knocked up; but of those which go on, and are likely to go on, we consider the scrips a good investment at present prices, and feel confident that they must, in the course of the season, bear high rates. Those who have held merely individual scrips will find no consolation in these things, if they are losers on their transactions, but this does not affect the general aspect.

The intrinsic state of the railway system has not altered for the worse but the better. The means of finding capital now are the same as ever; for, from whatever sources the capital for the construction of railways is derived, whether from the surplus capital of the country, as the *Times* says, or whether, as the *Railway Herald* says, from the labour yearly economised in other pursuits, and lying waste, it is clear that the limits of the available capital have not yet been trenched upon; and there is no reason for believing that the limit has been reached. The construction of many hundred miles of new railway may therefore be regarded without alarm—indeed, with the same confidence that a profitable return may be anticipated.

There is nothing in the state of the country or of the money market to constitute a justifiable ground of alarm; indeed, at the present moment, money is abundant, and at a low rate on the Stock Exchange; and our own impressions are unequivocally in favour of an improved state of the share market in the present year. We should not, indeed, be surprised if the present year were to exhibit a much greater height of speculation, and a much wilder mania for share-gambling than prevailed even in the last, for as the prices of shares are chiefly fictitious, having little to do with an intrinsic value or with real capital, there is no placing a limit to nominal prices. Certain it is, the preaching of the bears last year, and the fall of prices, have not nipped in the core the love of gambling, which is the cause of excesses, and not the share system. People who are restrained from playing at cards will raffle at a pious fancy fair, and where the spirit of intemperance prevails it will satisfy itself in some form or another. Father Mathew may preach and teach, and the Excise returns may fall for a time, but they either get up again, or opium supplies the place of grain. Father Mathew's real gain is with the children, and with them lies the cure of gambling. Father Mathew does not attempt to shut up the gin shops, but to take away the customers, still less does he attempt to knock up the houses of refreshment for wayfarers. The instructors of the public and the leaders of public opinion on share matters contemplate a very different course; they would shut up the Stock Exchanges, exchequer the brokers, and tax the customers; nay, some would go so far as to placard and publish them. We hear a great deal of invective against gambling, we hear the most doleful and exaggerated statements of its extent, but what attention is shown to that state of public instruction which can exhibit scenes so deplorable of general immorality? If we had not a large section of those who are called the educated, the

* An admirable paper in *Herapath's Journal*, by J. T. Hackett, Esq., the able railway stacionian, shows by the figures of the last four years that the net revenue of railways is increasing in a greater ratio than their extension.

upper and the enlightened classes of society, without any proper training, would they be found giving way to greedy and improvident habits, in the hopes of cheating their neighbours, that they may thereby reap a gain? It is to be added, too, that these parties knowingly and wilfully engage in these practices because they denounce all Stock Exchange operations. It would be much more complimentary to the right sense of the community, not to indulge in invectives against gambling, but to find a proper attention paid to the remedying of the popular ignorance, and raising the standard of the public morals.

While we exhibit for the benefit of operators the present state of affairs and their probable prospects, we must vindicate ourselves against the encouragement of share-gambling, or against the supposition that we take part in the outcry against the Stock Exchange. The operations of the Stock Exchange are of vital and essential importance to this country, in connection with the management, training, and growth of great branches of public enterprise, which have borne fruits of permanent value, and which can be committed to no other system with a due regard to sound principles of economy, or to our own safety as a great commercial nation. The conduct of these operations is not either actually or necessarily connected with any of the evils of share-gambling, which the ignorant and the malicious attempt to place to its charge. The share-gambling exists irrespective of the Stock Exchange, and in opposition to the counsels of its members; and it has been uniformly shown, that wherever any practicable means within their disposal presented themselves for controlling it, such have always been applied. The Stock Exchange has no more the means of checking share-gamblers and stags than the medical profession has in getting rid of quacks, the lawyers of pettifoggers, or the press of mercenary traders in scandal and infamy.

In going into the question of our future prospects in the market, we have done so because it is one of deep interest at the present moment, and because we are willing to take an early opportunity of having our views on such subjects practically tested by events. We cannot control moral causes or political events; but, with proper means at our disposal, we may sometimes have the opportunity of giving sound advice on leading questions, and of taking a useful part in promoting the true interests of the members of the railway community.

TRENT VALLEY CONTINUATION RAILWAY.

THIS is among the number of lines, the failure of which has created considerable discontent. The causes will best be found in the report of the directors, and we have added the prospectus of the Company as it originally appeared:—

“The committee of management regret the necessity of calling the shareholders together on the present occasion. It will, however, have been noticed in the advertisement convening this meeting, that on a re-survey of the line by the engineer-in-chief, the survey made by the acting engineer has proved so extremely inaccurate, as to allow of no hope of passing the standing orders committee with the maps and sections as now deposited.

“The Company was formed under the most auspicious circumstances. The provisional committee were highly respectable, and included many extensive and influential landowners along the proposed line of railway.

“The large number of applications for shares, and the great local demand for them, left no doubt that both the public and the inhabitants of Shropshire and North Wales were fully satisfied with the value of the project.

“On the appointment of your committee of management by the provisional committee (by whom also your officers were appointed), they were instructed to reserve 9,000 shares for distribution among railway companies at that time established, and with which your line might be connected at either end.

“Your late chairman, the Hon. Captain Carnegie, having, in the month of July last, opened a communication with the Trent Valley Railway Company, reported that it had been favourably received by them, and to farther secure their co-operation, recommended an allotment of 3,000 shares amongst them.

“Your committee accordingly acted in pursuance of his advice, and distributed 3,395 shares amongst the proprietors of that Company, thus leaving 5,267 shares, in case arrangements should be made with other Companies, and which shares are still undistributed.

“In April the engineers were instructed to make a preliminary survey of the intended line of railway, and on the 14th May reported ‘that the nature of the line was highly favourable in an engineering point of view.’

“In the early part of July, Mr. G. Rennie was appointed engineer-in-chief, and instructions were given to prepare the necessary documents to comply with the standing orders of Parliament, for the purpose of obtaining an Act for the formation of a line in the ensuing session; and which were immediately attended to, as appears by the following letter from Mr. Rennie, addressed to the secretary:—

“Holland-street, July 22, 1845.

“Dear Sir,—I beg to acknowledge the receipt of your letter of the 17th instant, communicating to me a resolution of the board of directors of the Trent Valley and Holyhead Junction Railway Company.

“In reply, I beg to inform you that I have this day conferred with and given directions to Mr. Higgins relative to the levelling and surveying the whole line of railway, from Stafford to Abergele, in North Wales, subject to my supervisal and to the board’s approbation. He is willing to undertake the levelling and surveying the whole line from Stafford to Abergele, in North Wales, at the rate of £40 per mile.

“But I have arranged with Mr. Higgins to carry on the levels and survey until I have considered the matter farther.

(Signed)

“G. RENNIE”

“At a meeting of the committee of management, held on the 30th day of July last, a letter from Mr. Rennie, dated the 29th day of July, was read, in which he reported that he had on that day conferred with Mr. Higgins on the gradients and surveys, and finding that he was willing to level and survey the whole line and prepare the necessary

documents ready for Parliament, and to deposit the plans, &c., for £30 a mile, he was of opinion that the price was fair and reasonable, and recommended that Mr. Higgins's offer be accepted accordingly.

"Whereupon the committee of management passed a resolution, that Mr. W. M. Higgins be instructed to undertake the parliamentary surveys at the cost of £30 a mile.

"Your engineer-in-chief having subsequently reported that it would be desirable to increase the capital of the Company, your committee resolved to raise the same to £1,250,000, and also to call for an additional deposit of £1 5s. on each share, to enable them to comply with the standing orders of the House of Lords, your committee at the same time offering to each shareholder one new share for every four original shares.

"Your committee are happy to report, in proof of the public estimation in which the line continued to be held, that in almost every instance the additional shares were applied for, and the necessary parliamentary deposits paid up.

"On the 8th day of August last, the following report, addressed to the secretary, was received from the acting engineer by the committee of management :—

"As the board will be anxious to know how the surveys are proceeding, I beg to inform you that we have measured the line from Foryd to Badfari, and the surveyors are now filling in and measuring the work. The system I have adopted will, I believe, fully secure accuracy, as every portion of the main line will be measured three times.

"I shall be able to send several miles of section and map to the engineer-in-chief before the end of next week.'

"In a letter received by the committee of management, dated the 18th day of August last, the acting engineer stated, 'tracings of the maps, for the solicitor to prepare the books of reference over the country already surveyed, will be ready by the end of next week.' From this date until the 22nd October, the committee received repeated assurances from the acting engineer that everything would be completed in ample time.

"At a meeting of the committee of management, held on the 22nd day of October last, the solicitor of the Company reported, 'that the gentlemen sent down on the line by him to make up the books of reference had only been able to complete one parish for want of maps,' and the engraver of the maps having reported that he had no maps to proceed with:—

"It was resolved,—That Mr. Higgins's immediate attention be called to the above state of affairs, and that he be reminded of the distinct pledges given to the committee of management by him, and of the consequent responsibility resting on him as to the completion of the maps, so as to enable the printer and solicitor to complete their respective duties in time.

"A copy of the resolution was forwarded to Mr. Higgins.

"As early as the commencement of September the solicitor to the Company was instructed to prepare the books of reference, which he did as fast as the maps were supplied by the engineer.

"Great additional expense was unavoidably incurred by the solicitor

in the delay of the engineer in delivering the maps, and from the imperfect state in which they were supplied.

“Thirteen miles of the maps were not delivered to the solicitor until the Saturday preceding the day on which the deposits should have been made. By great exertion, however, the books of reference were completed, and the necessary deposits were made with the Board of Trade and with the Clerks of the Peace, by the 30th day of November last.

“Your committee of management, notwithstanding their utmost exertions, could not obtain the last sheets of the sections until the 29th day of November, so that it was impossible to have them tested before they were deposited with the Board of Trade and the Clerks of the Peace.

“Being fearful, from the great haste with which the acting engineer had completed them, that inaccuracies might have been made, as early as possible in December they instructed Mr. Rennie, the engineer-in-chief, to test the levels of the line, so that the Company might be fully prepared to meet any opposition which could by possibility arise; and it was with great regret your committee received the following report from the engineer-in-chief.

“On the 24th December last, Mr. Rennie reported to the committee of management that he had twice most carefully tested the levels along the intended line of railway at the various points taken by Mr. Higgins, and as laid down by him on the plans; and he submitted a plan of the line, with the corrected levels drawn upon it, and a list of the errors committed by the acting engineer, which he thought would undoubtedly prevent the line passing the standing orders of Parliament; and he having advised the committee not to proceed to Parliament this session, as he could not, under the circumstances, support the line by his own evidence, your committee of management instructed the solicitor not to proceed with the service of the notices, as useless expense would be thereby incurred.

“The following is a copy of Mr. Rennie’s written report:—

“6, Holland-street, Blackfriars.

“To the Chairman and Directors of the Trent Valley Continuation and Holyhead Junction Railway, &c.

“Gentlemen,—Agreeably to your request, I now beg leave to communicate for your information the actual state of the surveys of the line of the above railway, according to the surveys of Mr. Higgins. These surveys were finished by the 30th of November last, and the plans and sections duly deposited.

“The season, however, had been so fully occupied, that it became impossible to give it that accurate test which a work of this nature demanded.

“In order, however, to prevent any farther expenditure of money beyond the expenses of taking fresh levels, I deemed it necessary to advise you to submit the sections to trial. The results have been so unfavourable on account of the inaccuracy of the sections as to recommend the abandonment of the bill for this session. With regard to the merits of the line itself, its direction and general local position are as favourable as when set forth by the prospectus.

“It opens a country rich in mineral and agricultural wealth, and

totally unprovided with railway accommodation, and is the nearest and most direct communication between London and Holyhead by several miles.

“For the greater part of the distance the sections are extremely favourable.

“From Stafford to the summit level near the old Denbigh-road, in a distance of fifty-five miles, the average rise is scarcely 212 feet.

“From the summit to Abergele to the northern extremity of the railway, the inclination scarcely exceeds on an average the usual levels of a railway; and when farther corrections shall have been made hereafter to the line, it will be still more favourable.

“In conclusion, I see no reason to abandon a line which indicates such fair results.—I am, gentlemen, your obedient servant,

“GEORGE RENNIE.’

“The subjoined letter of Mr. Newton, the gentleman who examined the levels, will sufficiently explain the particulars :—

“Trent Valley Continuation Railway,
“Dec. 31, 1845.

“Sir,—According to your directions of the 12th of December last, I proceeded at once to check the levels and examine the survey of the Trent Valley Railway, and beg leave to say that upon examining the levels I have ascertained that there is an error commencing at 5 miles 28 chains of 3 feet, increasing from thence to 16 miles 37 chains, where there is an error of 24 feet, which continues throughout the line, varying some few feet.

“With regard to the survey, I find from a general inspection, that it proves to be correct; some minor details only being left out.

“I remain, sir, your obedient servant,

(Signed)

“CHARLES K. NEWTON.

“George Rennie, Esq., &c.’

“The application to Parliament for the entire proposed line has therefore been necessarily postponed for this present session; but your committee of management have the greatest satisfaction in announcing that, since the advertisement convening this meeting was issued, they have been in communication with most influential local Companies, and the result has been, that negotiations for an amalgamation are in progress, which will be extremely advantageous to the shareholders of this Company. Had this meeting been held a few days later, these negotiations would most probably have been concluded. At present your committee of management are not at liberty to make them public, and recommend an adjournment of this meeting, in order to complete the pending arrangements.

“The financial state of the Company is as follows :—

Deposits	-	-	-	-	£103,043	9	7
Payments	-	-	-	-	12,593	8	0
Liabilities	-	-	-	-	4,057	13	2
“Balance in hand :—							
Exchequer bills	-	-	-	-	£34,058	8	9
Consols	-	-	-	-	55,000	0	0
Balance at bankers	-	-	-	-	1,391	12	10
To the credit of this Company	-	-	-	-	£90,450	1	7

(PROSPECTUS.)

TRENT VALLEY CONTINUATION AND HOLYHEAD
JUNCTION RAILWAY.

(Provisionally registered, pursuant to 7 and 8 Vict. c. 110.)

CAPITAL, £1,000,000, in 40,000 Shares of £25 each.

DEPOSIT, £1 10s. per Share.

PROVISIONAL COMMITTEE.

- The Right Hon. Lord Dinorben, Kimmel Park, Denbigh.
 The Hon. Captain Carnegie, R.N., M.P.
 The Hon. Captain Hotham, R.N., Chairman of the Brighton and
 Chichester Railway.
 The Hon. Horne Browne, London.
 Sir Henry Winston Barron, Bart., M.P., Director of the Waterford
 and Kilkenny Railway.
 Sir Wm. Lloyd, Bart., Bryn-Estyn, near Wrexham.
 Sir Henry Lewin, Q.C., Harley Street.
 Thomas Alexander, Esq., 7, York Place, Portman Square.
 T. Oliver Anderdon, Esq., Q.C., Lincoln's Inn.
 Charles Bradley, Esq., Birmingham.
 Joseph Brown, Esq., Regent Street, London.
 Richard Carpenter, Esq., Lonsdale Square, London.
 John Churchill, Esq., Bayswater, Middlesex.
 Captain John Cumming, Amwell Street, Claremont Square, London.
 Colonel Robert Douglas, United Service Club.
 Robert Fisher, Esq., Highbury Park, Middlesex.
 Captain Fisher, Junior United Service Club.
 John Foulkes, Esq., Ashfield, Wrexham.
 Henry Plumtre Gipps, Esq., Montague Place, Bryanstone Square,
 Director of the Coventry and Leicester Railway.
 F. J. Hall, Esq., Torrington Square and Lincoln's Inn, London.
 George Harper, Esq., Belvedere, Whitechurch, Salop.
 Richard Heaviside, Esq., Director of the Cork and Waterford Railway.
 Roger Holinsforth, Esq., Birmingham.
 Swynfen Jervis, Esq., Chairman of the Diss, Beccles, and Yarmouth
 Railway, Director of the Armagh and Coleraine Railway.
 Thomas Kelly, Esq., Alderman.
 R. Myddleton Lloyd, Esq., Banker, Wrexham.
 Donald Maclean, Esq., Abchurch Lane, London.
 Thomas Mills, Esq., Deputy-Chairman of the Northern and Eastern
 Railway.
 Peter Morrison, Esq., Princes Street, London.
 Henry Gerard Ohrlly, Esq., Hackney, London.
 George Parbury, Esq., Russell Square, London.
 George C. Parker, Esq., Wrexham.
 F. R. Price, Esq., Bryn-y-pys, Overton, Flintshire.
 Thomas Sydney, Esq., Alderman and Sheriff of London and Middlesex.
 Edward Sherman, Esq., St. Martin's-le-Grand, London, Director of
 the Great Northern Railway.

William Sloane, Esq., Great Wimpole Street, London.
 Henry Lewis Smale, Esq., Willoughby House, Tottenham, Director
 of the Northern and Eastern Railway.
 C. Spicer, Esq., F.R.S., Director of the Armagh, Coleraine, and
 Portrush Railway, Portman Square, London.
 Andrew Spottiswoode, Esq., Director of the Great North of France
 Railway.
 Richard Thompson, Esq., Stansby Hall, Wrexham.
 George Vincent, Esq., Temple, London.
 John Wheelton, Esq., Meopham Bank, Tunbridge, Kent, Director of
 the Taw Vale Railway.
 John Edwards Wilson, Esq., Grove, Market-Drayton, Salop.
 John Faulkner Wood, Esq., Whitchurch, Salop.
 With power to add to their number.

BANKERS—Messrs. Lubbock and Co., and the Union Bank, London.

ENGINEER-IN-CHIEF—

ENGINEERS—William B. Prichard, Esq., C.E., F.A.S., &c.

William Mullinger Higgins, Esq. C.E., &c.

SOLICITOR—Hull Terrell, Esq., 30, Basinghall Street, London.

LOCAL AGENT—James Vaughan Horne, Esq., Denbigh.

SECRETARY—G. N. Wright, M.A.

The time has now arrived for bringing this important national line before the public. Preliminary surveys have been made by the promoters, and the report of the Board of Trade on the Trent Valley line, leaves no doubt of the success of this undertaking.

This railway, 73 miles in length, will pass through the most populous and productive parts of North Wales—districts rich in mineral and agricultural produce, although, up to the present time, wholly unprovided with railway communication. Among the minerals may be mentioned coal—a variety superior to all others for the manufacture of coke—iron-ore, manganese, blende, copper, lead, and silver. North Shropshire, South Cheshire, and the picturesque Vale of Clwyd—the “garden of Wales”—are known to be among the most fertile agricultural districts of this country, but their resources neither are, nor can be fully developed, until a stimulus is given to industry and capital, by easy and rapid communication.

The proposed line will facilitate a communication between the chief towns of Flint, Denbigh, Cheshire, and Stafford—comprising Abergele, Rhyl, Dyserth, Rhuddlan, St. Asaph, Denbigh, Mold, Rhuthin, Llanrwst, Corwen, Llangollen, Bala, Dolgelly, Caergwrie, Rhuabon, Brymbo, Wrexham, Overton, Oswestry, Ellesmere, Wem, Audlem, Whitchurch, Wrenbury, Prees, Market-Drayton, Gnosall, Newport, Eccleshall, and Stafford.

Mutual intercourse will also be promoted between the extensive mineral districts of Halkin, Kilken, Mold, Buckley-Mountain, Wrexham, Hrymbo, Rhuabon; with Shropshire and Cheshire on the one side, and the Vale of Clwyd on the other. Direct communication will also be afforded to the mining districts with the harbours of Rhuddlan and Foryd, and the watering places of Abergele and Rhyl.

By the contemplated branch from Mold, this line will open a direct communication between St. Asaph, Denbigh, Rhuthin, and the interior

of North Wales, with Chester, Liverpool, Manchester, and the manufacturing districts of Lancashire and Yorkshire. By the "Shrewsbury, Oswestry, and Chester Junction Railway," in co-operation with the proposed "Shrewsbury and Hereford Railway," a direct communication will be secured with Oswestry, Welchpool, Newton, and the whole of North and South Wales. This line will also be the most direct road to Holyhead, for the West of England, Wales, and Shropshire; and, in comparison with any other route, will save fifteen miles.

From a calculation of the local traffic, exclusive of the Holyhead or Irish trade, the larger portion of which must inevitably pass over this line, an ample remuneration upon the capital to be expended may be fairly anticipated.

But this railway will not be entirely dependent for its profits upon the locality it traverses. A reference to the accompanying map will show that it is the only direct road from London to Holyhead, and that, in connection with the Trent Valley Railway, of which it is a continuation from Stafford, it will shorten the distance from London to Holyhead, twenty-one miles; nine miles being saved by the Trent Valley Railway, and twelve miles by this proposed extension. This saving of space is equivalent to one hour of time in the journey from London to Dublin, an economy, in the present state of the commercial intercourse between the two countries, of national importance.

The Board of Trade, as well as the public, has fully acknowledged the importance of time as a principal element in the selection of railway lines. The following extract is from their report on the South Eastern schemes:—

"In this, as in every other case, we have endeavoured to keep steadily in view the attainment of the greatest amount of public advantage. We have not recognised the existence of anything like vested rights in existing Companies to be protected from the same description of competition which they have themselves inflicted on canals, and other existing modes of communication, beyond perhaps a bare preference in cases of absolute equality, due to the interest of shareholders, who, themselves, constitute a portion of the public; we have not considered that an existing railway Company could claim any preference over other parties proposing to effect the same object, beyond that which might result from an identification of interest with the public."

"By adopting this line, the public will obtain a saving of twelve miles in distance, or at least half an hour in time, as compared with the existing route to Dover and Folkestone, and will secure as short and good a line of communication with the Continent, as the nature of the country will admit of."

In their report on the Trent Valley and Churnet Valley Railway schemes, a similar acknowledgment is made as to the importance of selecting the *shortest* lines.

"The Trent Valley Railway commences at Rugby, and runs by Tamworth, Lichfield, Rugeley, to Stafford, thus cutting off the angle of the London and Birmingham, and Grand Junction lines at Birmingham, and reducing the length of the journey from London to Liverpool and Holyhead, and by Carlisle to Scotland, by nine miles of actual distance. The proposed line is 49½ miles in length, and its gradients are of a very

favourable description. The serious delay now experienced in passing through Birmingham will also be avoided; and, on the whole, we agree with the commissioners, who reported in 1841, upon the communication with Ireland and Scotland, that a considerable saving in point of time will be effected upon through traffic. The importance of this saving upon such great lines of communication has been fully recognised on former occasions, and is too obvious to require comment."

The same principle has been advocated by Sir Robert Peel, in his place in Parliament, on the 20th March, 1845:—

"He would make no reference to any individual railway schemes, but he thought they ought to look forward to the result of mechanical improvements as applied to those schemes, and they might depend upon it—speaking of ultimate results—that the shortest lines would be preferred. (Hear, hear.) The tendency of the improvements which were almost daily introduced, was decidedly in favour of the shortest lines. He (Sir Robert Peel) had expressed this opinion in the year 1839. They chose to establish a railroad between Liverpool, Manchester, and London, and it was thought desirable that the line should go round by Birmingham. It was said, 'include Birmingham by all means in your line between Liverpool and London; it is useless to take a shorter line through a country much less productive.' He (Sir R. Peel) then ventured to predict that the people of Liverpool and of Manchester would not be sent round ten or twelve miles out of the direct line in their journey to the metropolis. In 1845 it was found that the shortest line was the best, and that Birmingham ought not to be included in the route; but £70,000 had been expended in testing the merits of the scheme, and, without in any degree undervaluing the legal profession, he must say that so large a sum spent in such a manner was worse than thrown away. Now, in order to save a distance of nine miles from Liverpool and Manchester, this new line, making a cut from Stafford to Rugby, was about to be established with universal consent. This ought, in his opinion, to be a lesson to the House. He did not wish to refer to any particular line of railway, but, generally speaking, and contemplating ultimate results, he was certain that when they were establishing communications between different parts of this country and between Scotland and Ireland, and this metropolis, whatever course they might now take, many years would not elapse before the shortest lines would be preferred."

The statements of the Government authorities satisfy the projectors, that this line, both upon public grounds, and from a consideration of its local advantages, must necessarily obtain the sanction of the Board of Trade and of Parliament.

The line selected forms part of a system of railways, which, taken in conjunction, brings London and Dublin nearer, by twenty-one miles, than any existing route. It will benefit a dense mining population—pass through or near many principal towns—be wholly without tunnel or viaduct—can be constructed, mile for mile, at a comparatively moderate cost, is not a competing line, and has received the approbation of the principal landed proprietors in the rich district through which it passes.

It has been deemed expedient, in order to meet all possible contingencies, that the capital should be one million sterling.

Applications for the prospectus and shares to be addressed to the Secretary, 30, Basinghall Street, London.

FORM OF APPLICATION.

TO THE PROVISIONAL COMMITTEE OF THE TRENT VALLEY CONTINUATION AND HOLYHEAD JUNCTION RAILWAY COMPANY.

I request you will allot me _____ shares of £25 each, in the Capital of the above-named Railway, and I will accept the same or any less number, and pay the deposit of £1 10s. per share, and sign the Parliamentary Contract and Subscribers' Agreement when required.

Dated the _____ day of _____ 1845.

Name
Address
Profession
Reference

STAGGING AND THE STAGDOM.

NEXT to the railway interest undoubtedly comes the stag interest, even if it do not, in its own estimation, constitute of itself a distinct railway interest. As stagdom is ever ready to claim a legitimate connection with the railway world, and others are so illwilled as to believe the assertion, the sayings and doings of staggism have assumed a prominence to which the merits of the actors give it no title. Staggism is always on the heels of genuine enterprise, tricking itself in a counterfeit guise, assuming the same names, the same forms, and occasionally entrapping the unwary. It has become, therefore, of considerable importance to track the stags to their lair, and to maintain a careful watch on their proceedings, for manifold are their wiles to clutch some of the good things, or to tender sham ones in their place, and railway parties cannot be too guarded against their plots.

The world of stags is a large one, and has an organization as extensive as that of the once celebrated community of St. Giles's, with which it possesses moral principles in common. The paternal soil of staggism is the old King's or Queen's Bench, in which most of the principal personages obtained their education, and where the bond of union between them was formed. It was one of the grand moral ends of the old system of imprisonment for debt, that it initiated a man into a school of vice and immorality, of no higher grade than Newgate, though carrying on its practices in a different garb. Imprisonment under mesme process took the unfortunate man, the idle man, the careless man, the obstinate one, the man slightly criminal, and placed them in a society where the most corrupt, unprincipled, and debased held chief rule. In these schools of evil the pupil was left as an idle student, degraded by

being sunk to the lowest ebb; the better feelings gave way, and the debtor, in despair, surrendered himself to the masters of vice around him. Idleness was the stock on which depravity was grafted, and where it readily took, and the fruit was luxuriant and abundant. Gambling was a fit pastime for idleness, sensual stimulants were the consolations for *ennui*; one step led to another — chuck-farthing paired off with accommodation bill signing, pitch and toss kept pace with whitewashing and repudiation, active cheating was the sequence to passive cheating, betting-books, Derby clubs, and marked cards, were looked to as the substitutes for industry, and fraud and personation followed in the rear.

A system which placed the unfortunate man on the footing of the criminal, and which allowed the criminal to palm himself off as the unfortunate, was accused of harshness even when it was wanting in discipline, and gave authority to those who were intended to be punished to assume the attributes of martyrs. Rogues, in such a guise, were made doubly dangerous; their imperfections were overlooked, and they availed themselves of their own arts and the compassion of others to compass their nefarious ends. It will not, perhaps, be a consolation to those who upheld the old system of imprisonment for debt, and who are clamorous for its revival, to inform them that those who most preyed upon them as stags, have been monsters of their own careful education. We could name and point out cases, where the greedy tradesmen, who had forced credit on the young man, and had then doomed him to jail, had lost his money on premiums in gambling transactions, got up by his quondam debtor, now a full-blown stag. Much of this retributive justice has been acted, but the community who suffered the former state of evils have also suffered from its consequences, though not the active agents. Let us now hope, however, that these evils and defects will be redressed, and certainly one of the best results we shall reap from the less populous state of the metropolitan prisons and their more wholesome discipline, will be a breaking up of those schools of scampism and staggism, which in former years sent out so many proficient pupils.

From careful observation, we are prepared to substantiate the statement, that the metropolitan prisons for debts, and in particular the old Queen's prison, have sent forth the majority of the stags, and this gives the explanation of many of the doings of staggism. If so many isolated and independent stags had been turned loose for subsistence, they would have had the greatest difficulty in following out on such a gigantic scale their nefarious pursuits, and so many of them could not have obtained a livelihood, while, above all, they could not have carried out some of the large schemes of fraud in which numerous parties have been engaged.

The bond of union between the stags has been a residence in a debtor's jail; and it was one of the degrading influences of the old system that, however disposed a man might be, he could not shake off this bond. The debtor formerly was made known as a prison companion to hundreds of individuals, and he always found numbers of these, and particularly the most degraded, who unscrupulously claimed this title to his acquaintance. Did he with honest endeavour establish himself as a tradesman or a professional man, some one straight claimed him as a "chum," quartered himself at his table, indulged himself at his expense, made his establishment a house of call, and while endangering his reputation, held over him the threat that he would make his

former position known in quarters where he least wished it. Did the biggest scamp on earth want a character or an introduction, he unblushingly demanded it of some "chum" in a respectable position, and few had the firmness to bear unmoved the consequences of their misfortunes, or to be taunted as wanting in pity to those who had been their companions in misery.

It is thus through the whole world of stagdom a mysterious link binds all parties; and if any members should be wanting in the practical initiation, yet they are affiliated on qualifications so conclusive as to unite them in the bond. Men who have, from incompetency and neglect, failed in obtaining admittance into a profession,—broken officers, professional men guilty of breaches of propriety, parties who have infringed the laws of the country or the laws of society, are recruits whose testimonials are undeniable. Thus, if there be not harmony, there is at least an *esprit du corps* among the stags, and they have a facility of combining for any foray upon the public. The stag solicitor, the stag director, the stag dealer, the stag barrister, the stag secretary, the stag advertising agent, the stag in common and the stag of stags, give each other the first of characters through the entire circle, except when they quarrel about the spoil; and never did a stranger receive an introduction to a greater number of men of the greatest probity, whose honour is always on their tongues, but rarely in their acts.

The kind of forty-shilling freehold on which a stag obtains his qualification is the sale of a letter of allotment for shares without paying the deposit. Letter-selling is the primary title to constitute a stag; and many an honest tradesman, who writes for shares, and turns a few pounds by selling his letter of allotment, little thinks that he is registered in a black-book as a stag, and liable to be confounded with such a notorious fraternity. The generic name is, however, applied *par excellence* to those who are frequently or permanently engaged in transactions of this kind, or in those of a similar class.

While letter-selling is the grand business of stagdom, the centre of its attractions is in the neighbourhood of the Stock Exchange, but on the outside; and hence, so far as Stock Exchange transactions are concerned, they are also termed outsiders, but rejoice in many other names. They once luxuriated in the Alley, and also in the Rotunda of the Bank; but the progress of metropolitan improvement and the exertions of the local authorities, have long since debarred them from those haunts. They tried to nestle in Capel Court; but the beadles of the Stock Exchange have ruthlessly driven them thence. During the summer they fled to the Auction Mart, but after a fierce struggle, that is now closed against them. Many of them have managed to get into the Hall of Commerce as subscribers; and the nuisance has reached such a height that their reign there is likely to be brief. They have had various schemes for establishing a local habitation and a home for themselves, but have always been disconcerted before they could muster up money enough for the attempt. Very strong exertions were lately made to purchase part of the new buildings at the Hall of Commerce as a scrip market; and it is said that Founders' Hall, in Lothbury, has also been coveted for the same purpose. The great difficulty, however, in this operation of staggism is, to find parties to whom the funds could be

entrusted without the assurance of their speedy embezzlement, and appropriation to the individual use of the trustees.

The pavement in Bartholomew Lane, in front of Capel Court, has of late been the chief mart of staggism ; but its votaries have to endure many inconveniences from wind and weather, and a wet day decidedly acts as a damper on the market. Here, during the business hours of the day, the Rothschilds of stagdom may be seen pursuing their vocations : a row of dirty-looking men, in shabby suits, with large leathern pocket-books in their hands, and bundles of greasy papers. Some of them are as busy and as much in request as a Chinese barber in a crowded market-place, and have their throngs of customers, who attend them with eagerness and respect. By the panic, Bartholomew Lane was at once shorn of its chief glories ; and in two or three days' time it was deserted by the whole herd, though some loiterers were to be found in the Hall of Commerce, or the Auction Mart Coffee-house, lingering in hopes of a speedy change. The great men had acquired a sudden conviction that they were likely to be much sought after ; and so it turned out—as of late many of them have been wanted at the Mansion House in cases of embezzlement of scrip, obtaining money under false pretences, signing other people's names to deeds, selling sham situations, and other such pranks, which were believed to be without the bounds of the law, but which the strong feelings of judges and juries against staggism have lately visited with the penalties of transportation and the house of correction.

The letter-selling business, though partly transacted for tradesmen, who sell their allotments, is chiefly for the fraudulent transactions of the stags. These personages apply for shares under false names, and with false references, and their ingenuity is constantly exerted to secure as large an allotment of shares as possible, by whatever means. One man will apply in several names at once, perhaps twenty, giving fictitious names, or using the names of respectable parties. His skill is also directed to giving such references as are likely to impose upon Railway Companies as genuine, and where there appears little probability of a reference being made or replied to. References to persons of rank are common, and also to members of the press ; but this has been much checked of late, as Companies have been more cautious in giving way to such impositions. Sometimes the stag gets the use of the name of a friend in the country, and sometimes makes arrangements with servants or postmen to take in allotments addressed to real persons of character and which the stag intercepts. It does not matter to the stag what he does, so that he gets as many letters of allotment as possible, and his endeavours to this end are most persevering. He makes his wife, children, and servants write. If he can get hold of a cobbler named Hudson, or an old clothes-man named Baring, he writes letters for him, and takes the allotments himself. The realities of staggism are, however, beyond all description ; and the variety of shapes in which it stalks often defy detection, and, at any rate, are beyond our power to enumerate in any detail ; one specimen is enough.

When the stag has secured a letter of allotment, or several, he proceeds to Bartholomew Lane to see his broker, as he calls it—his broker being one of the broken-down personages whom we have before described as holding their station on the pavement and on the curb-

stone of the said lane. The stag's broker being as big a scamp as himself, and each having the greatest desire to cheat the other, operations between them are much like the interview of two spiders, and it frequently terminates in the dealer getting possession of the letter for a consideration, which is not forthcoming, and for which there is no remedy, the transaction being illegal. The gains of stagdom are, on the whole, bad, and the business precarious, so that it cannot be classed among the wealthy professions any more than among those which are respectable.

To this rendezvous also resort the higher classes of stags—gentlemen in shooting costume, with mustachios, imperials, and dashing paraphernalia, who have also little affairs to transact in the shape of the letters they pick up, and who also come to get some little inkling as to the concerns in which they figure as directors, and in which they calculate upon getting a large allotment, and shovelling it into the market.

The dealer who purchases the letters disposes of them again, perhaps in the Hall of Commerce, to some of the higher dealers in his own line, or to some of the outside brokers; and although no transactions in letters are recognised by the Stock Exchange, yet, as customers sometimes want a large allotment on particular lines, the brokers are occasionally obliged to make purchases of the stag dealers.

When the purchaser has paid upon his letter, which often he has to purchase at a considerable premium, though sometimes he may get it for a few shillings, his difficulties begin; for he cannot obtain his scrip until the allottee has signed the deed, and he has to send into the Alley in order to find the allottee. Here begins the hunting of the stag, and the tracking him to his lair, which have obtained for him his glorious name. The letter has, perhaps, passed about from dealer to dealer, and as the name on it may be fictitious, the allottee is difficult to be traced, while his principal, having got all he could out of it, and caring nothing about it, or having been tricked by the dealer, is unwilling to come forward without a further consideration. Occasionally, under these circumstances, the purchaser is forced to avail himself of another of the virtuous propensities of staggism, and get some serviceable stag to sign the required name with a pair of green spectacles on, for half-a-crown or ten shillings; and in this pursuit the stag, when hard driven, has been known to turn a little money—the same individual having been ascertained to have signed the same deed twice in one day in a different name, making only a trifling change in his dress, as we have said, putting on a pair of green spectacles or another coat, or sometimes without the slightest attempt at disguise at all.

As the transactions in Bartholomew Lane are previous to the issue of scrip, or any quotations in the Stock Exchange list, and sometimes before any allotment has been made at all, they give facilities for what is technically called rigging the shares. Stag directors, stag secretaries, and, indeed, stags generally, have great faith in the efficacy of this, though experience, after all, has proved very little in its favour. The rigging, or running shares up to a premium in the Alley, is carried out by making arrangements with some of the leading stags, who boast that they have the power of getting things up to a premium, and sometimes induce weak-minded persons, who know no better, to pay them for doing it. By devoting a small fund for this purpose, the stags are enabled to

buy of each other a number of shares at a premium, and the operation is fortified by the due promulgation of a host of lies, in the publication and origination of which the whole stag fraternity take active part. A very favourite specimen of this kind, although almost worn threadbare, is to assert that Rothschild has given orders to purchase ten thousand shares at one pound premium. If the stags have confidence that the "rig" is likely to take on a considerable scale, they often get let in themselves by the inducement to operate on their own account, in the belief that they shall make a good thing out of it. It occasionally happens that the attempt to "do" the public ends in "doing" themselves; and the stags lose great part of their gains in the scrip of some bubble line, which they have run up to a nominal premium.

The income from rigging shares is one of the supports of Stag Alley, while the funds employed for the purpose tend also to give a solidity to its operations; but the stags are also disposed to engage as volunteers in such operations, where they have a strong interest in a line by its being a bubble concern, managed or concocted by stags, and in which they have hopes of large allotments. So far as they themselves are concerned, their operations are not profitable in the long run; for what they gain in one way they lose in another, and generally smart most in those concerns of which they have the very highest opinion.

In the mind's eye of a stag, the "rig" is the concentration of all art; he believes that Companies were made to give allotments to stags; but he considers most that it is the bounden duty of all committees to devote a portion of their funds to rig the markets. He cannot understand a Company being carried on by any other means, or with any other purpose, and he is always earnest in his advice for the application of his great panacea, which he is willing himself to effect for a very trifling consideration. As small funds will sometimes do this, he derides those who neglect such a small exertion; and he occasionally entraps country boards or new men to have resort to the mysteries of the Alley. This the parties sometimes do to their cost, for the process being often inefficacious, the expense of it falls upon those who took the risk of supplying the funds.*

The extraneous supplies of money for the support of stagdom are chiefly found in small tradesmen, yokels from the country, and gents about town. Our intelligent stag, having scraped acquaintance with a small tradesman, is speedily led to unveil to him the certain means by which a large fortune can be made with a very small outlay, and without the slightest risk. Perhaps the tradesman writes for shares, and delivers over the letter of allotment to his new friend for disposal, at considerable risk of losing the proceeds,—for a stag would forfeit an annuity of fifty pounds a year for the present chance of purloining five pounds. If the stag sells the letter and pockets the money he realises on the transaction, and it becomes a simple contract debt, which his friend can recover whenever he can get it; but if he overcomes the temptation, he inflicts on his principal a still greater eventual loss by opening a series of transactions with him. As the neophyte knows nothing of the operations of the money-market, and as the other has extensive knowledge and experience, though by some fatuity he has not realised the sweets, no one can be better qualified than our stag for suggesting the means of dispc-

* See the case of the Shropshire Mineral Railway.

sing of the letter and carrying out the operation. A few glasses of brandy and water make the evening consultations more sober and agreeable, and when the stag hands over the small proceeds of the transaction, of which, perhaps, the greater share has already found its way into his pockets, a supper celebrates the occasion, part of the profits reward the stag, and the operator has realised — prem. on twenty shares in the Brixton Grand Trunk Continuation, and Birmingham, Newcastle, and Bristol Junction Railways : that is to say, — prem., less brokerage, less one half to the stag, less the supper, and less cigars and brandy and water at sundry times.

This leads to other transactions, more frequent meetings at the pot-house, the initiation of a neighbour or two, the participation of the licensed victualler, and the transmogrification of the stag, at the expense of accounts on the books of sundry indulgent traders in the vicinity. The time passes merrily, the stag is a good hand at whist, first-rate at cribbage, wins at every game, and particularly at tossing heads and tails for a glass of gin and water ; while he has so much knowledge of the world, so much skill in business, and such winning manners, that it is a gratification to entertain him, and a gratification which he is most ready to tender to his hosts. He is taken home, and becomes a frequent companion, borrows shillings and half-crowns, is obliged with the loan of five pounds on an important occasion, and obtaining the use of a name to a bill on an emergency. Things get on swimmingly ; a few allotments are sold, others hang on hand, others are paid upon, in hopes of their getting better, and a few trifling but safe specs are indulged in. Besides occasional losses, the end of these things is the panic day—the stag is missing from his haunts, a smart sum is sunk, the remaining scrip sold at a heavy discount, the renewed bill has come in, the other name is Sir Giles Mizzledale, who has never been worth a straw, the five pounds is not forthcoming, all the bills are unsettled ; and it is found out that the stag was bankrupt in 1826, whitewashed in 1829, bankrupt again, and paid nothing in the pound, in 1833, and was remanded from the Insolvent's Court in 1844. Several titled and mustachioed connections have also vanished, and also the sovereigns lent to them for cab-hire. What becomes of the stag, until his next appearance, is one of the mysteries of London.

We have given a sketch of the manner in which tradesmen are led to neglect their business and sacrifice their money by the stag interest, and it will admit of easy verification. Young fellows from the country smart in the same way, though they often operate on their own account ; and there are a good many of the class of idlers called gents, with small means, who also become voluntary victims. Young men in situations we have frequently known to become connected with the stags, and to have become embarrassed in consequence ; and many have been reduced by necessity and by the loss of character to enlist themselves in the same disreputable ranks.

It is certainly not desirable that any of the above-named classes of persons should lose their money or indulge in such pursuits ; but it is very certain that the railway interest have nothing to do with the case, and no part in the responsibilities of it. If the stags were not in Bartholomew Lane, swindling in shares, they would be found in the billiard-room, or in the bar of the pot-house, on the watch for the same

parties, and betraying them by the same passions to their own plunder. After all, the plunder by stags has been as much exaggerated as that by any other class of desperadoes, and it is restricted to a very small amount comparatively. The extent of suffering to the parties losing has been in some cases relatively great; but it may be very much doubted whether the degree of punishment has been in any case sufficient for the individual who has been led away by greediness to involve himself with such connections, and in pursuits so foreign to his training and experience.

It is one consolation, that though the stag community makes a considerable figure, it is not numerically so large as has been supposed; but it is still large enough to render its existence a public and notorious nuisance. That there are any efficient means of abating it we seriously doubt; but this we feel convinced of, that the members of the stagdom are in as miserable a plight as can well be, and their gains are no inducement to any individual to leave a decent pursuit for one which is disgraceful and dangerous. The best remedy would be to place railway operations on a legal footing more consonant with the established commercial practice; for the stags derive the chief cloak for carrying on their pursuits from the facilities afforded by ill-contrived laws, which place difficulties and restrictions to the public inconvenience, and without any public benefit, and therefore give a premium for fraud and imposture, as all such legislation has the natural tendency to do, particularly where any monetary operation is at stake.

RUGBY, DERBY, AND MANCHESTER RAILWAY.

THIS undertaking was got up under well-known bubble auspices, and the proceedings of the projectors were what might have been expected from stags let loose. By the force of imposition and impudence, assisted by the height of the mania for railway gambling, a sum of £84,000 was raised by the issue of shares.

The prosperity was, however, only temporary, as on the deposit of the plans by Mr. Blunt, the engineer, it was found they were of the most monstrous character. In thirty-nine miles, between Macclesfield and Derby, the length of tunnelling was no less than nine miles, or about one-quarter of the length; neither were the other works less monstrous. They included no less than two miles of arching, 90 to 100 feet high—works to which the Greenwich viaduct bears not the least resemblance in greatness of character. There were also two cuttings, three and a half miles long, and from 40 to 90 feet in depth; and to aggravate the expense of such works, the chief part would have had to be carried to spoil. Of the cuttings, one half mile was 111 feet in depth; and of the arching there were 422 yards, or a quarter of a mile, in one run, no less than 100 feet high.

On the other hand, the plans were so defective that twenty-five of the bridges were made to measure no more than from 10 to 12 feet high, but chiefly 10 feet, so that it would have been impossible, if made, for locomotive engines of the ordinary construction to have run under them.

By the munificence of the promoters and managers, none of whom knew what a railway was, and many of them what a five pound note was, or had a coat to their backs previous to this concern, £7,000 was paid to Mr. Blunt for his engineering, and he claimed £6,000 more, but afterwards abandoned it.

To the credit of the committee it is to be observed, that they all paid up with the exception of five, and that they employed Mr. Hawkshaw to examine the plans, by which the expense of going to Parliament was avoided.

At a meeting on the 18th December, 30s. per share was returned to those parties who had paid up on their shares.

This, it is to be observed, is the celebrated concern from which a deputation had the impudence to present itself before Lord Melbourne, and blazon forth the account of his lordship's approval.

Mr. Brewer, the solicitor, has published a pamphlet in his own defence.

(PROSPECTUS.)

RUGBY, DERBY, AND MANCHESTER RAILWAY.

(Provisionally registered, pursuant to 7th and 8th Vict. c. 110.)

CAPITAL, £1,500,000, in 60,000 Shares of £25 each.

DEPOSIT, £2 12s. 6d. per Share.

(In order to insure compliance with the standing orders both of the Lords and Commons.)

PROVISIONAL COMMITTEE.

Lord George Paget, Uxbridge House, London.

Sir W. Young, Bart., Westbourne Terrace, Hyde Park, Director of the East India Company.

Sir James Carmichael, Bart., 40, Sussex Gardens, Hyde Park, Director of the Reading and Reigate Railway Company.

Sir W. Boothby, Bart., Ashbourne Hall, Ashbourne.

Sir Robert Wilmot, Bart., Osmaston Hall, Derbyshire.

Sir W. Lowthrop, Bart., Alga House, Scarborough, Chairman of the Hull and Barnsley Railway Company.

Sir John Hansler, Deputy Lieutenant of Essex.

The Mayor of Derby.

¹ John Parkinson, Esq., F.R.S., 80, Cambridge Terrace, Hyde Park, Director of the Irish Great Western, and the Northampton, Banbury, and Cheltenham Railways.

² Thomas Stephenson, Esq., F.S.A., 37, Upper Grosvenor Street, Hyde Park, Director of the Irish Great Western, and the Reading and Reigate Railways.

Thomas Bent, Esq., M.D., Derby, Director of the Derby, Gainsborough, and Great Grimsby Junction Railway.

James Clifford, Esq., Broughton House, Shardlow, Derbyshire,

¹ Did not pay up.

² Did not pay up.

- William Cox, Esq., Brailsford, Derbyshire.
 David Wheatcroft, Esq., Buckland Hollow, Derbyshire.
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 William Holt, Esq., Great Coram Street, and the Elms, Watford.
 A. G. Greaves, Esq., Derby.
 John Robinson, Esq., Silcoates Cottage, near Wakefield, Director of
 the Bradford, Wakefield, and Midland, and Leeds, York, and Mid-
 land Junction Railway.
 Edward Mammatt, Esq., Ashby-de-la-Zouch.
 Samuel Simpson, Esq., of the Greaves, Lancaster, Director of the
 Liverpool and Leeds Direct.
 Douglas Fox, Esq., Director of the Derby, Gainsbrough, and Great
 Grimsby Junction Railway.
 George Robinson, Esq., Hull, Director of the Hull and Barnsley
 Junction Railway.
 Thomas M'Turk, Esq., Hull, Director of the Hull and Barnsley
 Junction Railway.
 Matthew Pierpoint, Esq., Crown East, Worcestershire, Deputy-Lieu-
 tenant of the county of Worcester.
³ Henry Brigstock, Esq., M.D., Derby, Director of the Derby, Uttoxeter,
 and Stafford Railway.
 Joseph Lancelot Davenport, Esq., Derby, Director of the Derby,
 Stafford, and Uttoxeter, and Stafford Railway.
 Frederick Fox, Esq., Melbourne, agent for Lord Melbourne.
 James Joseph Dolman, Esq., Melbourne, Derbyshire.
 John Earp, Esq., Melbourne, Derbyshire.
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 Southampton, Manchester, and Oxford Junction, and of the Grand
 London and Dublin Approximation Railways.
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 the Grand London and Dublin Approximation, and of the
 Southampton, Manchester, and Oxford Junction Railways.
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 Valley Midland, and of the Manchester and Southampton Junction
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 A. A. Fry, Esq., Temple.
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 Director of the Lynn, Wisbeach, and Peterborough Railway.

³ Did not pay up.

- John Hill, Esq., Derby, Director of the Derby, Uttoxeter, and Stafford Railway.
- Thomas Haimes, Esq., Melbourne, Derbyshire.
- Thomas Hemsley, Esq., Melbourne, Derbyshire.
- Henry Orton, Esq., King's Newton, Derbyshire.
- George Vandeleur, Esq., King's Newton, Derbyshire.
- Mr. Samuel Robinson, Shaw House, Melbourne, Derbyshire.
- John Towle, Esq., Borrowwash Mills, Derbyshire.
- † George Wooton, Esq., Chelston, Derbyshire.
- James Hollingworth, Esq., Melbourne and Derby.
- Wellington Ross Seymour, Esq., Montague Place, Russell Square.
- James Renshaw, Esq., West Heath House, Erith, Kent, Director of the South Staffordshire Junction Railway, and 3, White Hart Court, Lombard Street.
- A. Inderwick, Esq., Brompton, Middlesex.
- John Groom, Esq., Member of the Town Council of Northampton.
- James J. M'Swiny, Esq., Sandal View, near Wakefield, Director of the Wakefield and Harrogate Junction Railway.
- Richard Dransfield, Esq., West Place, Dalton, Huddersfield, Director of the Liverpool and Leeds Direct, and of the Keighley, Halifax, and Huddersfield Junction Railways.
- Robert Docksey Goodwin, Esq., Ashbourne.
- John Bainbrigge Storey, Esq., Lockington Hall, Leicestershire.
- Edward Doubleday, Esq., F.L.S., Great Surrey Street, Director of the Rugby, Warwick, and Worcester Railway.
- William Caldwell, Esq., Ince Hall, Wigan, Alderman of the Borough of Wigan, Director of the Liverpool and Leeds Direct Railway, the Staffordshire Potteries Railway, Liverpool and Manchester Direct Railway.
- Henry Stock, Esq., Beddgelert, North Wales, Director of the Great Eastern and Western.
- John Campbell Dicker, Esq., New Hall, Byeston, Cheshire, Director of the Birkenhead and Holyhead Railway.
- John Curzon, Esq., Derby.
- James Peet, Esq., Derby.
- William Taylor, Esq., Derby, Director of the Derby Gainsborough, and Great Grimbsby Junction Railway.
- Charles Milnes, Esq., Dale House, Matlock, Derbyshire.
- Henry George Gascoyne, Esq., Lea Hall, Rugeley, Staffordshire.
- Perry Dicken, Esq., Ashby-de-la-Zouch.
- George Clark, Esq., Windham Lodge, Brighton, and Rusholme Park, Manchester, a Magistrate.
- James Consterdine, Esq., Rosin Hall, Manchester, a Magistrate.
- F. R. Hodgson, Esq., Oakley, near Manchester, Merchant.
- Edward Attolden, Esq., Aston Hall, Derby.
- Henry Taylor, Esq., Wigan, Director of the Liverpool and Leeds Direct, the York and Lancaster, the Eastern, Western, and Southern, or Ipswich and Southampton, Reigate, the Halifax and Huddersfield, the Liverpool, Preston, and North Union Junction, the Staffordshire Potteries, the Dover and Bristol, and of the Cheltenham and Oxford Railways.

† Did not pay up

- Capt. T. Follitt Powell, Ashbourne.
 Thomas Byron, Esq., Wigan, Director of the York and Lancaster and Liverpool and Leeds Direct, and the Keighley, Halifax, and Huddersfield Junction Railway.
 Thurston Dale, Jun., Esq., Ashbourne.
 John Douglas Cooper, Esq., Holm College, Ashbourne.
 C. Kelly Cooper, Esq., Ashbourne.
 John Witham, Sen., Esq., Ashbourne.
 Thomas J. Mountfort, Esq., Ashbourne.
 James Osborne, Esq., Ashbourne.
 Samuel Dawson, Jun., Esq., Walton Bank, Ashbourne.
 John Smith, Esq., Barton House, Ashbourne.
 Thomas Smith, Esq., Blore Hall, Staffordshire.
 John Bloor, Esq., Tutbury.
 Samuel Fox, Jun., Esq., Derby.
 John Smith, Esq., Middle Temple, and Bury Street, St. James's, Director of the Leeds, York, and Midland Railway.
 * Joseph Peel, Esq., Singleton Brook, Manchester.
 Edward Lucas, Esq., Member of the Town Council, Birmingham.
 John Thomas Raworth, Esq., Leicester, Director of the Leicester and Birmingham, and London, Bristol, and South Wales Railway.
 John Ostler, Esq., Hull, Member of the Provisional Committee of the Hull and Barnsley Junction, and the Leeds and Carlisle Railways.
 Charles Bamford, Jun., Esq., Hull, Member of the Provisional Committee of the Hull and Barnsley Junction, and of the Leeds and Carlisle Railways.
 R. B. Childs, Esq., Swarckenstone Lowes, Derby.
 (With power to add to their number.)

ACTING COMMITTEE.

- Sir W. Young, Bart., Westbourne Terrace, Hyde Park.
 Sir W. Boothby, Bart., Ashbourne Hall, Ashbourne.
 Jeremiah Pilcher, Esq., Russell Square, London.
 John Parkinson, Esq., F.R.S., 80, Cambridge Terrace, Hyde Park.
 Thomas Stevenson, Esq., F.S.A., 37, Up. Grosvenor Street, Hyde Park.
 The Mayor of Derby.
 Matthew Pierpoint, Esq., Crown East, Worcestershire, Deputy-Lieutenant of the County of Worcester.
 Joseph Bridgett, Esq., Aldermanbury, London.
 William Seymour, Esq., Montague Place, Russell Square.
 A. A. Fry, Esq., Temple.
 Thomas George Smith, Esq., Doughty Street, Mecklenburgh Square.
 A. Inderwick, Esq., Brompton, Middlesex.
 David Wheatcroft, Esq., Buckland Hollow, Derbyshire.

ENGINEER—Charles Blunt, Esq., C.E.

SOLICITOR—Thomas Gibson Brewer, Esq., 13, Gray's Inn Square.

STANDING COUNSEL—William Holt, Esq., Chancery Lane.

COUNTRY SOLICITORS—Derby, John Moss, Esq.; Manchester, Messrs. Crossley and Sudlow; Ashbourne, John Fox, Esq.; Ashby-de-la-Zouch, Henry Minion Hawkesworth, Esq.

* Did not pay up, but never applied for shares.

PARLIAMENTARY AGENT—Thomas Baker, Esq., Spring Gardens.

BANKERS—London, Messrs. Masterman, Peters, Mildred, and Co.; Derby, the Derby and Derbyshire Banking Company; Ashbourne, the Burton, Uttoxeter, and Ashbourne Union Bank.

AGENTS—London, Thomas G. Smith, Esq., 2, Warnford Court, Throgmorton Street; Ashbourne, Thomas Jones, Esq.; Leicester, Messrs. Ellgood and Harrison; Hull, Messrs. Flint and Tootal; Liverpool, Messrs. J. B. and D. Neilson.

SECRETARIES—William Richard Scott, Esq.; Horace Green, Esq.
Offices of the Company, 33, Gresham Street.

The Rugby, Derby, and Manchester Railway is a direct line from London to Manchester, coming from London to Rugby along the London and Birmingham line, and proceeding from Rugby to Hinckley, through Market-Bosworth, and Ashby-de-la-Zouch, to Derby, thence to Ashbourne, by Leek to Macclesfield, and along the Macclesfield and Stockport, and Stockport and Manchester Railways, into Manchester.

A branch to Buxton is in contemplation.

The principle of this railway is to obtain a direct through line between some of the most important districts in the kingdom, with the least possible amount of new railway, and consequently the smallest expenditure of capital.

It will also establish the shortest direct communication between Derby and London, Sheffield and London, and between all the towns on the North Midland Railway and London.

The Manchester, Derby, and Rugby Railway will open a direct communication between Manchester and Derby, and will considerably shorten the distance between Manchester and Nottingham, and Manchester and Leicester.

The line from Derby to Rugby will establish the direct communication from that town to London, which has been so long considered desirable by the inhabitants.

The same will apply to Sheffield, when the Sheffield and Chesterfield branch of the North Midland Railway is made.

The Rugby, Derby, and Manchester Railway, in connection with the Oxford and Rugby, and Oxford, Southampton, and Gosport Railway, forms a direct Manchester and Southampton line.

The great advantages of the Rugby, Derby, and Manchester Railway, over the other projects into Manchester, among others, are—

First.—That there are only seventy-five miles of railway to be made in place of one hundred and eighty-nine.

Secondly.—That it is a more direct line from London to Manchester than even the proposed direct lines.

Thirdly.—That it interferes with no existing railway property or vested interests.

Fourthly.—That it passes through a district rich in manufactures, agriculture, and minerals, but which, more especially as regards its agricultural produce, and a convenient system of intercommunication for the conveyance of that agricultural produce, to supply the large manufacturing towns in the vicinity, has been hitherto left totally without railway communication.

Fifthly.—That it passes through the towns in its route, instead of avoiding them.

Sixthly.—That the whole line of railway from Rugby to Manchester will be complete and in working order within ten months from the passing of the Act of Parliament.

Seventhly.—That the maps, plans, estimates, and other documents required by the standing orders of Parliament will be lodged with the parish clerks, the clerks of the peace for the counties and the parliamentary offices, on the 10th of November next, being twenty days within the time required by the regulations of Parliament.

In the allotment of shares a preference will be given to the extent of 10,000 shares, to the holders of stock in the London and Birmingham Railway; also of 2,000 shares to the shareholders in the Oxford, Southampton, and Gosport Railway Company; of 1,000 shares to the Oxford and Rugby Railway Company; and 2,000 shares to the Manchester and Birmingham Railway Company.

RUGBY, DERBY, AND MANCHESTER RAILWAY.—Notice is hereby given, that the last day for receiving applications was Friday the 19th instant; and in consequence of the great number remitted far exceeding that to be allotted, no others can possibly be received.

GREAT MANCHESTER, RUGBY, AND SOUTHAMPTON.

THE Great Manchester, Rugby, and Southampton is one of those schemes which has attained special notoriety on account of the misconduct of the directors. The singular measure has been resorted to of publishing the names of the directors, and carrying them on placards around the Stock Exchange, Bank, and the city generally.

In this case Mr. Giles was the engineer, and undertook to complete the plans; but it was found that, after deluding the directors for some time with the assurance that he was ready, on the 20th of November it was ascertained that it was totally impossible that he could be ready. They were accordingly abandoned, though Mr. Giles had the coolness about the same time to ask a further advance of £2,000: as it was, he had received £3,700.

The committee, however, acted, if possible, worse than Mr. Giles, as, out of seventy-five, five only paid upon their allotments. The liabilities at the meeting were ascertained to be £17,000, while the receipts had been only £10,705 10s., leaving a deficiency of £6,300.

The number of shares was 150,000: the number allotted was, 134,000 to the public, 7,000 to the committee of management, and 1000 to the local agents, making 143,000.

The number of shares paid upon was 4,490.

The receipts were made up of £2 2s. on 4,490 shares, 10s. per share bullied out of the holders of 1,515 shares, and 2s. per share on 5,280 shares.

At £2	2s.	-	-	-	-	£9,429	0
"	10s.	-	-	-	-	757	10
"	2s.	-	-	-	-	529	0
Total						-	-
						£10,705	10

The items of the disbursements, as given by the committee, were of a most confused nature, thus described :—

Paid for various matters connected with the progress							
of the Company - - - - - £4,300 0 0							
Paid Mr. Giles - - - - - 3,700 0 0							
Bills come in and remaining to be discharged - 8,000 0 0							
Sundry other expenses not yet ascertained - 1,000 0 0							
<hr/>							
Total						-	-
Deficiency						-	-
						£17,000	0 0
						6,300	0 0

This account of "various matters connected with the progress of the Company," "bills come in," and "sundry other expenses," very much resembles Punch's skeleton of a Walbrook account, but is the language of the sagacious directors.

It is very evident that the directors had been playing ducks and drakes with the rights of the shareholders before any money came in, and instead of doing their duty and paying the preliminary expenses out of their own pockets, as incurred by their own misconduct, they attempted to extort them from the parties to whom shares had been allotted.

At the general meeting of the 17th of December, a resolution was proposed by the directors, and passed, that the whole of the applicants for shares should be asked to pay up 2s. per share, and that if they failed to pay, "their names should be advertised in the papers, as a warning to future Companies, and an act of justice to the present."

The directors who prompted this most ill-advised step little thought that, instead of its leading to the advertising of the names of others, it would lead to the placarding of their own; but such has been the deserved result, and it has been attended moreover with such comments on the part of the public press as have been very severely felt by the delinquents. It is, however, too often the case that those who are most in fault are the most ready to attack others, but by so doing they the more effectually prepare their own punishment.

It is singular no secretary's name is attached to the original prospectus.

THE GREAT MANCHESTER, RUGBY, AND SOUTHAMPTON
RAILWAY,
WITH A DIRECT LINE FROM DERBY TO RUGBY.

(Provisionally Registered, pursuant to 7 and 8 Victoria, cap. 110.)

CAPITAL, £3,000,000, in 150,000 Shares of £20 each.

DEPOSIT, £3 2s. per Share.

PROVISIONAL COMMITTEE.

- 1 The Right Hon. Lord Viscount Combermere, G.C.B., G.C.H., &c.
- 2 The Right Hon. Lord Thomas Pelham Clinton.
- 3 The Right Hon. George R. Dawson.
- 4 The Hon. Cecil Lawless.
- 5 Sir Arthur De Capel Broke, Bart.
- 6 Thomas Bateson, Esq., M.P., Albany, and Belvoir Park, County Londonderry.
- 7 Major-General Parlbly, C.B., Rutland Gate, Hyde Park.
- 8 Sir Andrew Pellatt Green, R.N., K.C.B.
- 9 Sir John Jacob Hansler, F.R.S., F.S.A., &c., Upper Bedford Place.
- 10 Henry John Enthoven, Esq., 8, Moorgate Street, Director of the Dutch Rhenish Railway.
- 11 William Watson, Esq., } Directors of the Bristol and Exeter and the
- 12 William Morgan, Esq., } North Devon Railways.
- 13 Anthony Dickson, Esq., Edrington House, Berwickshire, late Physician-General of Bengal.
- 14 William Shadbolt, Esq., Croom's Hill, Greenwich, Chairman of the Greenwich, and Director of the Dendre Railway.
- 15 Samuel Ellis Bristowe, Esq., Twyford Hall, near Derby.
- 16 Frazer B. Henshaw, Esq., Lower Seymour Street, Portman Square, Director of the Liverpool, Manchester, and Newcastle-upon-Tyne Railway.
- 17 William Watson Prole, Esq., Thurloe Square, Brompton, Director of the Jersey, and South Midlands Junction Railways.
- 18 John Inglis Jerdein, Esq., 150, Piccadilly.
- 19 David Montague, Esq., Regent's Park.
- 20 John Bloor, Esq., Tutbury, Staffordshire, Director of the Sheffield, Buxton, Leek, and Potteries Railway.
- 21 Grey Hazlerigg, Esq., West Carlton Hall, Leicestershire, Director of the South Midland Railway.

¹ Did not pay upon his allotment.

² Ditto, one of the committee of management.

³ Did not pay.

⁴ Did not pay up on his allotment; one of the committee of management. Was on the provisional committee of the Direct London and Exeter defunct scheme, and did not pay up there.

⁵ Did not pay up.

⁶ Ditto.

⁷ Ditto.

⁸ Did not pay up. One of the provisional committee of the defunct Direct London and Exeter who did not pay up.

⁹ Did not pay up.

¹⁰ Ditto.

¹¹ Ditto.

¹² Ditto.

¹³ Ditto.

¹⁴ Ditto.

¹⁵ One of the committee of management; did not pay up.

¹⁶ Did not pay.

¹⁷ One of the committee of management, and *paid* on his allotment.

¹⁸ Did not pay.

¹⁹ Ditto.

²⁰ Ditto.

²¹ Ditto.

- 22 Benjamin Franklin, Esq., 5, Harley Street, Cavendish Square.
 23 Jonas Wilks, Esq., Watling Street, London.
 24 William Morley, Esq., Blackheath, Kent, Director of the Newcastle, Durham, and Lancashire Junction Railway.
 25 Henry R. Downman, Esq., Kidwelly, Carmarthenshire, and 47, Upper Bedford Place.
 26 Robert Chapman, Esq., Coomb Lodge, Hants, and Park Place, Regent's Park.
 27 James Reeves, Esq., Cheapside, and Leyton, Essex.
 28 John Downes, Esq., 6, Bedford Place, Russell Square.
 29 George Ashlin, Esq., Mark Lane.
 30 Alfred Bicketta, Esq., Merchant, Gracechurch Street.
 31 William Lee, Esq., Satis House, Rochester.
 32 John Hardcastle Mousley, Esq., Derby.
 33 John Bowring, LL.D., M.P., Director of the Blackwall Railway.
 34 Ambrose Moore, Esq., Milk Street, London, and of Derby, Director of the Dendre Railway.
 35 Henry Wright, Esq., Director of the Warwick and Worcester, and the South Midland Junction Railways.
 36 Charles Augustus Tulk, Esq., of Totteridge Park, Herts.
 37 Henry Gosse, Esq., Epsom, Surrey.
 38 James Russell, Esq., Gloucester Place, Portman Square, Director of the London and Birmingham Junction Railway, and of the Tring, Reading, and Basingstoke Railway.
 39 John Weston, Esq., 28, Woburn Square.
 40 Edward Webster Bullock Webster, Esq., Hendon, Middlesex, Director of the New River Company.
 41 James Hunt, Esq., 31, Parliament Street.
 42 James Lys Seager Esq., Director of the Welsh, Midland, and Shrewsbury and Hereford Railway.

23 Did not pay.

23 Ditto.

24 Ditto.

25 Ditto; a member of the committee of management; seems to have been connected with the Great Welsh Central Railway, a bubble scheme, which tried also to squeeze money out of the allottees.

26 A member of the committee of management, who *did* pay on his allotment.

27 Did not pay.

28 Ditto.

29 Ditto.

30 Ditto.

31 Ditto.

32 Ditto.

33 Ditto.

34 A member of the committee of management; *did* pay on his shares; took an active part in the management.

35 Did not pay.

36 Ditto.

37 Ditto.

38 Ditto.

39 Ditto.

40 Ditto.

41 Ditto.

42 Ditto.

- 43 Edward Turst Carver, Esq., Forest Lodge, Tulse Hill, Director of the North Wales and Namur and Liege Railways.
 44 William De Lanoy, Esq., 42, Guildford Street, Russell Square.
 45 Archibald F. Paull, Esq., Leadenhall Street, Director of the South Wales Railway.
 46 William H. Allen, Esq., Leadenhall Street.
 47 Andrew Spotswood, Esq., Millbrook, Magherafelt, County Londonderry.
 48 J. Mee Matthew, Esq., Mecklenburgh Square, Director of the Derby, Sheffield, and Worcester Railway.
 49 Burton Archer Burton, Esq., Woodlands Hall, Emsworth, Hants.
 50 John Rawson, Esq., Stony Royd, Halifax, Director of the Manchester, Liverpool, and Great North of England Railway.
 51 John S. Silva, Esq., Crutched Friars.
 52 Charles James Heath, Esq., 6, London Street.
 53 Frederick Clarkson, Esq., Doctors' Commons, and Hanger Lane, Tottenham.
 54 James Peard Lee, Esq., Seyton Ironworks, Whitehaven.
 55 John Saunders, Esq., Derby, Director of the Derby and Crewe, and Erewash Valley Railways.
 56 Thomas Hackett, Esq., Merchant, Derby.
 57 Mr. Herbert Holmes, Carriage Builder, Derby.

COMMITTEE OF MANAGEMENT.

The Right Hon. Lord Thomas Pelham Clinton.
 The Hon. Cecil Lawless.
 William Watson, Esq.
 William Morgan, Esq.
 William Watson Prole, Esq.
 Robert Chapman, Esq.
 Samuel Ellis Bristowe, Esq.
 Ambrose Moore, Esq.
 Archibald F. Paull, Esq.
 Henry R. Downman, Esq.

ENGINEERS—Francis Giles, Esq.; Alfred Giles, Esq.

SOLICITORS—Messrs. Thompson and Debenham, Salters' Hall; Messrs. Edwards, Mason, and Edwards, 8, Moorgate Street.

BANKERS IN LONDON—Messrs. Glynn, Halifax, Mills, and Co., Lombard Street; the London Joint Stock Bank, Princes Street.

- 43 Did not pay; one of the Queen Dowager's household.
 44 Ditto.
 45 Ditto, a member of the committee of management.
 46 Did not pay.
 47 Ditto.
 48 Ditto.
 49 Ditto.
 50 Ditto.
 51 Ditto.
 52 Ditto.
 53 Ditto.
 54 Ditto.
 55 Ditto.
 56 Ditto.
 57 Ditto.

BANKERS IN DERBY—Messrs. Samuel Smith and Co.

LOCAL AGENTS—Derby, Joseph Sale, Esq.; Ashby-de-la-Zouch, William Dewes, Esq.; Market Bosworth, William Codwell, Esq.; Hinckley, E. Kem Jervis, Esq.; Macclesfield, William Norris, Esq.; Leek, John Cruso, Esq.; Cheadle, John Blagg, Esq.; Uttoxeter, Messrs. Welby and Flint; Burton-on-Trent, John Thornewell, Esq.; Southampton, Alexander F. Patterson, Esq.

The commercial advantages and great facilities which the port of Southampton offers to the merchant and the manufacturer, clearly point out a demand for a more direct communication with it from Manchester and York, and the various manufactories of the north and of Staffordshire, than is at present afforded, either by the circuitous route on the eastern side, through London by the Birmingham and the South Western Railways, or on the western side, by the Birmingham and the Cheltenham Railways. Numerous influential and monied parties, interested in improving this communication, have projected a direct line, proceeding from Manchester, *via* Stockport, Macclesfield, Leek, Cheadle, Uttoxeter, Tutbury, Burton, Market Bosworth, and Hinckley, to Rugby; and then using the Rugby and Oxford Railway to Didcote (on the Great Western Railway), to form a railway thence to Southampton by way of Newbury, Andover, and Stockbridge.

The distance between Manchester and Rugby by the existing railway route is at present about 116 miles, and by the proposed line from Macclesfield to Rugby it will be only 92, so that the projected railway will lessen the distance by 24 miles, which, as well in time as charge, will effect a most important improvement in the traffic both of passengers and goods between those places, and will afford an accommodation which is imperatively required in regard to the large population of the intermediate towns now without any convenience from railway conveyance.

It is needless to remark how great must be the advantage which the whole manufacturing districts round such an emporium of manufactures as Manchester will derive, from having direct access to such a port as Southampton, which has now become the chief medium of transit to all the islands and ports in the Mediterranean, and to India also, by means of the packets of the Peninsular and Oriental Steam Navigation Company, as also to the colonies and ports of the Western Hemisphere by the mail packets established for that purpose.

As the scheme embraces the important feature of a direct line from Derby to Rugby, by joining the Great Manchester, Rugby, and Southampton Railway near Market Bosworth, thereby saving one-fifth of the distance, it will be at once apparent that York and the whole northern district will, by means of the North Midland Railway to Derby, obtain the same direct communication with Southampton; and, in fact, the project will contribute a grand trunk communication from north to south through the centre of the kingdom; and not only will the northern commercial and manufacturing towns benefit by this great undertaking, but the important coal and iron districts of Derbyshire and Staffordshire, which the line intersects, will derive immense advantages from the convenient and extensive new mart which will be opened for their valuable productions, whilst Southampton and the

intermediate localities will greatly benefit by the ready and cheap manner in which coals and other necessary productions, not only of the soil, but of northern manufactories, will be supplied, whether for consumption or merchandize.

It is proposed that the Southampton terminus shall be a convenient spot in the vicinity of the new docks, independently of the South-Western Railway. The lines of the proposed railways have been carefully surveyed, and levels taken by skilful engineers and surveyors, and in no part present any unusual difficulties. The gradients will be unusually good, and the general line of country may be regarded as offering engineering facilities for the important work proposed.

A more direct communication from Manchester and from York, through Derby and Rugby to Southampton, is professedly the main object of the proposed scheme; but it will be obvious to all who study the geography of the respective places, not only that the line to Rugby, both from Manchester and from Derby, forms a more direct communication between those places and London, by means of the Birmingham Railway from Rugby, than any other route now in use, but that it will challenge the skill of the engineer and the ingenuity of the speculator to devise a better line.

It is no slight advantage in this scheme that the interference it offers to any of the existing railways is not considerable, whilst the increased traffic which it is certain to cause on the North Midland Railway, and the traffic which it is calculated to retain to the London and Birmingham Railway, notwithstanding the threatened rivalry of two distinct Manchester and London direct lines; as also the immense traffic both of passengers and goods which it must necessarily pour along the Rugby and Oxford line, now under the management of the Great Western Railway Company, appear not only to neutralize the opposition, but to entitle this project to the support of each of those formidable bodies.

It appears unnecessary in regard to a line of railway like that proposed, to go into those details of passenger and goods traffic, which may be necessary where the amount is questionable; but as the main feature of this scheme is the improvement of communication between and near places, the traffic of which is known to be immense, it would be idle to swell the prospectus with any such particulars. It is sufficient to state that it will be equal to that of any line in the kingdom.

The subscribers will be only liable to the extent of their deposits; and power will be taken to allow the shareholders four per cent. on the deposit and calls until the opening of the line.

In the allotment of shares a preference will be given in favour of landowners on the line and others locally interested, also to directors and shareholders in railways connected with this undertaking.

Plans of the line, and copies of the prospectus and forms of application for shares, may be had by applying to the Company's solicitors, or to the following:—Messrs. Pritchett and Munday, Stock Brokers, 74, Old Broad Street, and 17, Royal Exchange (eastern entrance); Messrs. Wells, Westrop, and Princeps, 75, Old Broad Street, London; Messrs. Bradley, Ford, and Parker, Mr. J. Faringhaugh, Mr. W. B. Newbery, and Mr. John Bethon, Manchester; Messrs. Earp and Son, Derby; Messrs. John Haselden and Son, Mr. S. Summerfield, and Messrs. Davies and Son, Liverpool; Messrs. George Edwards and Son, and Messrs. Wreford,

Nichols, and Wreford, Bristol; Mr. Charles Wickens, Northampton; Messrs. Watson and Co., Hull; Mr. Samuel Collinson, and Messrs. Pott and Lerick, Nottingham; Messrs. Wilkinson and Sons, Exeter; Messrs. King and Co., and Messrs. Ridsdale, Myers, and Bailey, Leeds; Mr. Samuel Clerke, Edinburgh; Messrs. Collis and Son, Mr. Edward Wilson, and Mr. J. Wrighton, Birmingham.

FORM OF APPLICATION FOR SHARES.

TO THE PROVISIONAL COMMITTEE OF THE GREAT MANCHESTER, RUGBY, AND SOUTHAMPTON RAILWAY, WITH A DIRECT LINE FROM DERBY TO RUGBY.

Gentlemen,—I request that you will allot to me _____ shares, of £20 each, in the above railway, and I hereby undertake to accept the same, or any less number you may allot me, and to pay the deposit of £2 2s per share thereon, and to sign the Parliamentary contract and subscribers' agreement when required.

Dated this _____ day of _____, 1845.

Name in full
 Place of Business or Profession
 Residence
 Business or Profession
 Signature
 Name, Residence, and Profession of Referee.

METROPOLITAN RAILWAYS JUNCTION.

THE following report was read by Mr. Payne, at the meeting of the shareholders in this Company, on Monday, February 2, and is an illustration of bubble management.

“Report of the Committee of Shareholders of the Metropolitan Railways Junction Company, duly appointed to consider the question of an amalgamation of the Northern and Southern Connecting Railway Company.

“ TO THE SHAREHOLDERS.

“Gentlemen—Your committee, duly appointed at the general meeting of shareholders on January 5, 1846, (with the consent of the directors), entered upon their duties on the following day. Two advertisements were published on the 7th of January, one signed by Major Croft, chairman of the directors, and the other by your own chairman—the former thereby publicly acknowledged the consent of the directors to this present meeting. In accordance to the invitation through the advertisement of your chairman, shareholders in the Northern and Southern Connecting Railway Company had interviews with your committee, and were desirous of having the amalgamation carried into effect, but those shareholders could not obtain from the officers of that Company any positive information as to the state of their affairs and accounts. This naturally created a suspicion in your committee that the monetary department of the Northern and Southern was not in the

position as announced, viz., that £30,000 were in banks, free from liabilities. The Metropolitan did not profess to have such an amount, but having lodged their plans in due time, and the opposing line not having done so, it was regarded as a fair ground for an instant amalgamation. The shareholders of the Northern and Southern being anxious for this result, and not denying the right of their own directors to carry it into effect, your committee thereupon considered that the directors of the said Company should be regarded as representing the shareholders; and in that view of the case the said directors were then recognised as being in the condition to negotiate with your committee, provided that any proposal should come from them in any official character. Mr. F. W. Etheridge (one of the promoters of the Metropolitan) had an interview with two of the directors of the Northern and Southern, and produced terms of proposal to amalgamate. The proposal could not be received unless officially transmitted by the directors of the opposing Company, and signed by their chairman. The interview of Mr. Etheridge was upon his own responsibility, and, fearful of any future misunderstanding upon this point, your chairman informed him, that the only power having authority to negotiate was the duly-appointed committee of shareholders, for the directors and promoters had failed to secure the amalgamation, therefore it was that your committee were appointed. The deplorable condition of the funds of the Metropolitan daily unfolded itself, so as nearly to destroy all efforts to amalgamate; nor was there any official proposal presented whereby an issue could be obtained. Your chairman thereupon wrote the following letter to the chairman of the directors:—

(EXTRACT.)

“ ‘ January 16th, 1846.

“ ‘ Dear Sir—The unwillingness of Mr. Etheridge, or the difficulty to obtain a formal proposal from the Northern and Southern (signed by Mr. Hubert de Burgh), naturally calls forth justifiable suspicion that the opposite party to the Metropolitan has some hidden motive, which, by being in darkness, prevents investigation. To this point I am resolved, viz., that a formal proposal, or official opinion of a certain proposal, must emanate from the opposite party, be it shareholders, or their duly recognised authority, through directors or otherwise. The resolution yesterday of the committee of shareholders of the Metropolitan (and now upon their minute books) commands this condition, and why should it be refused? Mr. Etheridge is a registered promoter of the Metropolitan, but has not paid or signed the deeds for a single share. It is not right that these proposals should be presented without official authority. Mr. Etheridge can receive no official instructions from the directors of the Metropolitan until the trust confided to this committee, by independent shareholders at a public meeting, be restored to them in a similar manner. If the committee I represent is not recognised in full by the directors of the Northern and Southern, an amalgamation will be a fiction and not a reality; and thereupon an exposition will arise of a most disastrous character to the originators of the Metropolitan—for, upon the present investigation of the accounts, it is really appalling to view the results. The expenses and liabilities (apart from more serious matters) will be proved, I fear, to be beyond all the *bona fide* cash deposits. Thus, instead of having in bank, above

liabilities, as I was publicly assured, the sum, or nearly so, of £10,000 to negotiate with, there will be in bank scarcely £100; and even an important document for Parliament (the traffic tables) has been neglected to the extreme verge of time, in which it is scarcely possible to have it completed.

“ J. T. Croft, Esq. ”

“ I am, yours truly,

“ GEORGE JONES.

“ The result of this letter was the presentation to your committee, by Major Croft, of a proposal from the Northern and Southern. Your chairman objected to its being signed by merely one of the directors of that company—viz, Mr. Graham, and not by Mr. De Burgh. The proposal, however, contained this important change in reference to the shares of each Company. When the directors left off the negotiations on January 5, the Northern and Southern demanded three shares of the Metropolitan and 12s. to represent one share; but the proposal presented to your committee on January 17, admitted the shares to be equal in value, thus making a difference in less than two weeks of £5 17s. per share! This sudden change caused suspicion. The base of the proposal was that each Company should produce the same amount of capital, from £15,000 to £30,000 each, and then enter Parliament for a section of the proposed railway, commencing at Reigate. Ways and means were suggested by the promoters of the Company to obtain this result; but all attempts were founded upon hope, and not upon a substantial issue: when, at last, the balance sheet of the Metropolitan was produced by the accountants engaged for that especial purpose, and it being discovered that most serious incidents had transpired, it was resolved by your committee to call the directors to an interview at an especial meeting, as they had desired such a conference. It was, therefore, resolved to meet the directors in committee on Monday, January 19. Notices were duly sent. The directors did not meet your committee upon that day, or the next, although your committee waited several hours each day.

“ On January 20, the following letter was written by order of your committee to the directors:—

Committee-room, Jan. 20, 1846.

“ Sir—It being the unanimous opinion of the committee of shareholders, on the question of amalgamation, that its directors, in having twice failed to meet the above committee, in accordance with the express desire of the directors themselves, have materially injured the interests of the company, the Committee of shareholders, therefore, now request that the promise of the directors be carried into effect on Thursday, the 22nd instant, at twelve o'clock.

“ I am, sir, yours obediently,

“ GEORGE JONES,

“ Chairman of Shareholders.

“ To J. T. Croft, Esq., Chairman of the Directors.’

“ On the 22nd of January, the interview took place between your committee and the directors of the Company. Your chairman, candidly, and without reserve, placed before the directors the results of the investigation of the accounts, and their civil and criminal liabilities.

The directors were distinctly asked, whether they would back the money taken from the bank without authority, and which they had used unlawfully. [This refers to a sum of money amounting to several thousand pounds, which was proved at the last meeting to have been drawn out of the banker's hands, by the board of management, for the express purpose of buying up letters of allotment at a premium.] The directors distinctly replied in the negative. With this reply, together with the necessity for new documents to replace those vitiated, and the condition demanded by your chairman, that the Northern and Southern Company should have full knowledge of every liability and incident of this Company, in order that not the slightest deception should be practised, and the same from the opposite Company, these points being of a conclusive character, the proposed amalgamation could not be effected, and all further negotiation upon that subject was declared to be at an end. The present public meeting was thereupon required for the interests of the shareholders. It was accordingly resolved upon by your committee, and advertisements were forthwith published. The chief cause of the failure to amalgamate, or to proceed to Parliament, is traced to the condition of the Company, both in a monetary and a moral point of view. The report upon that subject will be presented to you at this present meeting, as forming an integral part of the duties of our joint committees.

“Approved by the committee upon amalgamation.

“London, Feb. 2, 1846.”

“GEORGE JONES,

“Chairman.

The reading of this portion of the document having been concluded, The chairman was about to take the sense of the meeting upon its adoption, but

Mr. Garbett objected, and it was ultimately agreed that the second division of the report should be read before the adoption of either was moved.

The chairman then, in order to relieve Mr. Payne, himself read the second portion of the document as follows:—

“The Report of the Committee of Shareholders of the Metropolitan Railways Junction Company, duly authorised (with the consent of the directors) to investigate the accounts and affairs of the said Company.

“TO THE SAID SHAREHOLDERS.

“Gentlemen—Your committee, duly appointed at the public meeting of shareholders held at the office of the above Company, on January 5, 1846, for the purpose of investigating the accounts and affairs of the Metropolitan Railways Junction Company, having completed their laborious duties, now lay before you the result of the investigation, which your committee are prepared to prove and establish in any court of justice. Your committee premise that they proceed to record the following results without any personal feeling to the parties involved. The committee consider their appointment to be of a public character, and, therefore, however their sense of honour and of honesty may have been shocked upon contemplating the conduct of the directors generally,

your committee have sanctioned this report, with that calmness and solemnity due to a document founded upon truth. The manifestation of facts has been so astounding that all private indignation at the reckless loss of property has subsided into the calm public duty of exposing fraudulent deception, and to call forth its merited punishment. The history of the Company will be briefly given, from its commencement to the present day, not only for the information of the shareholders in particular, but also for the public generally, that each may receive instruction from past experience; and as this meeting (and its purposes) has received the consent of the directors themselves (perhaps now viewed by them with regret), this report may be regarded as a privileged document. The Company originated in July, 1845. The first registered promoters were as follows, viz.—Mr. John Barber, one of the solicitors; Mr. Frederick William Etheredge; Mr. Thomas Austin; and Mr. F. W. Nicholson, an articled clerk. As early as September 3, one of the present directors addressed a note to Mr. John Humphreys, father of one of the solicitors, in which he writes—‘You are at liberty to use my name.’ This, from the construction of the note, alludes to the provisional committee list. On the 20th of September the same party wrote the following note to the secretary (Mr. Cheese), in which he gives his voluntary consent to be one of the directors, viz. :—

“ 3, Abchurch-lane, September 20, 1845.

“ Dear Sir—I have made arrangements to leave London for Paris, and shall not return till Monday week. As I shall be able, having taken much interest in such a line as the present, to be useful to you, you may place my name on the management. I will return in a week.

“ ‘ I am, dear sir,

“ ‘ Yours truly,

“ ‘ THOS. R. KEMP.

“ To J. Cheese, Esq.’

“ This note is of importance, as the writer denied to your committee that he could be responsible as a director, although he had constantly sat at the board, because he was not registered as such, and no document existed to prove his consent. Your committee now find, in addition to the above note, that he is registered at the office of the Registrar-General. The first meeting of the provisional committee took place on September 22, when Major J. T. Croft was appointed chairman. The directors were also at the same time appointed, and among other resolutions, the following extraordinary one was passed unanimously—your committee have it attested from the original minute book of the directors, viz. :—

“ Resolved—That the solicitor and promoters of the Company will not in any way seek for payment from the provisional committee, but will only look to the deposits; and, the solicitors being present, assented thereto.

“ Thus, at the very commencement of the Company, a cautious proceeding took place, to guard the directors and provisional committee, but at the declared sacrifice of the shareholders. Shortly after the meeting of September 22, the prospectus of the Company was officially published. This important document is the base upon which the con-

tract between the directors and shareholders has been founded. The following were announced, in addition to the provisional committee, as the present directors of the Company—they are registered as such, with the exception of Mr. Potter, viz. :—Messrs. J. T. Croft (chairman), W. H. Aspitel, J. Beisley, J. Clift, Colonel Fitch, T. R. Kemp, G. Parbury, W. Potter, Sir George Rich, R. A. Riddell, and H. Savage; Solicitors—Messrs. John Barber, Furnival's-inn, and J. Humphrys, Jun.; Secretary—Mr. John Cheese. The capital was announced to be £2,000,000 sterling, to be disposed of in 80,000 shares, of £25 each; deposit, £2 12s. 6d. per share—£2 10s. for the standing orders, and 2s. 6d. per share for preliminary expenses. The amount to be received from deposits upon the capital of £2,000,000 would be £210,000. The number of shares allotted to the public were 65,710; the residue, 14,290, were reserved for the promoters and others. Your committee have the following documentary proof, viz. :—'The promoters, before any of the shares were allotted to the public, applied to the directors, through the solicitor, for 10,000 shares, as a compensation for the trouble and expense in getting up the concern, which application was granted by the directors; but none of those shares have been taken up or a deposit paid thereon. If the shares had come out at £1 premium, as was expected, they would have made £10,000 by the job. Others than the promoters were concerned in this, which made them so eager to force up the shares to a premium by purchasing shares for the company, which was really done without the knowledge of the majority of the directors.' The buying and selling of scrip shares by the directors was the first great fault, vicious in principle, deceptive and fraudulent in effect, and unlawful in itself. In the Act of Parliament 7th and 8th Victoria, c. 110, last clause of sec. 27, it is distinctly declared as follows, viz. :—'Provided always, that it shall not be lawful for the directors to purchase any shares of the Company, nor to sell any such shares, except shares forfeited on the non-payment of calls or instalments; nor to lend to any one of their number, or any officer of the Company, any money belonging to the Company, without the authority and sanction of a general meeting of the shareholders, duly convened.' Now, this buying and selling of shares took place before the final day of paying the deposits (October 20). This evidence is upon the testimony of the present solicitor of the Company. His explanation only proved the unlawful character of the transaction, for it was thereby established that the shares so bought and sold were not forfeited shares; for that could only be from the deposits not having been paid, and this transaction took place before such forfeiture could have been declared by the directors. The committee appointed for this department were Messrs. T. R. Kemp and R. A. Riddell. The said shares and letters of allotment were purchased through certain brokers for the account, and for the 'coming out,' and were paid for, not by the private funds of the directors, but actually with the deposit money of the *bona fide* shareholders. Your committee deeply regret they are compelled to state that, to carry into effect this unlawful transaction, no less than ten cheques (in four weeks), were drawn upon the bankers, for the large amount of £12,891, for which amount, or any part thereof, not the slightest authority is given in any resolution upon the minute book of the directors. The secretary (Mr. Cheese), in

LIABILITIES.

To sundry creditors, as per Schedule B.	-	-	£10,126	13	6
To claims of country brokers, say	-	-	200	0	0
To attachment by Capel and Co., upon money in bank	-	-	365	12	6
To second attachment by Capel and Co.	-	-	513	0	0
To attachment by Pattison (broker)	-	-	292	10	0
To legal expenses thereon, retained by Currie and Co.	-	-	60	0	0
To miscellaneous expenses, to date, say	-	-	100	0	0
			<hr/>		
			£37,697	16	0
Cr. side of balance sheet	-	-	36,166	13	6
			<hr/>		
Balance due by the directors	-	-	£1,531	2	6

CR.

By expenses, viz. :—					
By preliminary expenses	-	-	£552	6	4
By advertising	-	-	1,227	7	9
By engineer's bill	-	-	6,527	18	10
By referencing	-	-	940	4	11
By solicitor's bill	-	-	5,305	3	6
By parliamentary expenses	-	-	33	6	6
By stationery and printing	-	-	486	0	0
By salaries	-	-	573	0	0
By rent	-	-	70	0	0
By travelling expenses	-	-	69	10	0
By incidental expenses	-	-	539	19	8
			<hr/>		
			£16,325.	1	0

AVAILABLE ASSETS.

By cash in sundry banks	-	-	9,622	8	6
By cash in the office of the Company	-	-	27	1	5
By cash due from the solicitor, paid to him for directors, by Mr. Kemp	-	-	211	17	6
By office furniture	-	-	20	0	0
			<hr/>		
			£9,881	7	5

ASSETS NOT AVAILABLE.

G. T. Which the directors purchased with the deposit money, viz. :—By drawing cheques upon the bank, for which there is no authority upon the minute book, viz. :—					
By purchase of letters of allotment, 2,340 shares at £2 12s. 6d.	-	-	6,142	10	0
By purchase of scrip shares, 1,195, at £2 12s. 6d.	-	-	3,136	17	6
By premium on letters of allotment, 2,470 shares	-	-	117	7	6
By brokerage on the same	-	-	30	5	0
By premium on scrip shares, 1,695	-	-	384	7	6
By brokerage on the same	-	-	148	17	6
			<hr/>		
			£36,166	13	6

“ N.B. The contribution from the 6,385 *bona fide* shares by the shareholders, to pay the balance due by the Company, viz., £1,531 2s. 6d., would be in round numbers 5s. per share, viz., 4s. 9½d. each. The above is a true balance-sheet from the original documents of the Company.

“ GEORGE JONES,

“ Chairman of Committee of Shareholders.

“ Attested by Quilter, Ball, and Co.’

“ A few days after the last public meeting, your committee received the following letter addressed to your chairman, written by the chairman of the directors, and it is but justice to the party to insert it in the report upon the accounts and affairs of the Company, and to state that he has not received the slightest pecuniary benefit, either directly or indirectly, from his connection with the Company :—

“ Chichester, January 11, 1846.

“ My dear Sir,—A very particular engagement detains me here to-morrow, or I should have considered it a duty to meet you at the office of the “Metropolitan.” Perhaps, though, it is as well that I should not be present at the investigation of the accounts, as the secretary and solicitor can afford the committee of shareholders every information. I am very anxious that the committee shall examine most rigidly as to whether, as chairman of directors, I have ever, either directly or indirectly, gained one farthing by my connection with the Company.

“ I am, my dear sir,

“ Yours faithfully,

“ To George Jones, Esq.’

“ J. T. CROFT.

“ It is but an act of justice to another director, W. H. Ashpitel, Esq. to report that he has rendered every assistance to your committee, and he deeply feels, as a man of honour, the circumstances which your committee have brought to light regarding the Company. Major Croft, Mr. Ashpitel, and Mr. Beioley, having duly paid their deposits, and the only members of the directory, deserve this especial notice from your committee. Your chairman having been asked by certain directors his approbation to their signing a cheque upon the bankers, and this approval having been solicited upon more than one occasion, and as often rejected by your chairman, he therefore considered it his duty to write the following letter to the directors, in order to guard the shareholders from these attempts to create a mutual responsibility.

“ Jan. 15, 1846.

“ Dear Sir,—I told you yesterday, in my capacity of chairman of the shareholders, that the directors retained (of course) all their power over the funds, and, as a result, retained all and every responsibility as directors, as also the members of the provisional committee and the promoters of the Company. The shareholders of the Metropolitan Railway Junction Company, together with their especially appointed committee, are a totally distinct body from the directors, provisional committee, and promoters. This I repeat as an adjunct to our conversation of yesterday, when you asked my consent for you and others of the directors to sign a cheque for money, which money had been confided to their sole

guardianship, and for which they are responsible. The committee of shareholders have no power—it can possess no power, in any way to change that responsibility, and, consequently, the said committee, or their chairman, cannot have the most distant voice in the administration of the funds in the possession now (or heretofore), or in future, of the directors, and especially before obtaining the Company's bill or incorporation by Act of Parliament, for then only are all parties in the Company regarded by the laws as joint partners. Your letter to me on the 11th was duly received and recorded in the minutes of the shareholders: obtain the same justice for this letter in the minutes of the directors, as it may be of importance. I have, however, kept a copy, according to my custom.

“ I am, dear sir, yours truly,

“ GEORGE JONES,

“ Chairman of the Shareholders.

“ To J. T. Croft, Esq., Chairman of Directors.”

“ On January 22d an appointed interview took place between your committee and the directors. At that meeting your chairman distinctly asked the secretary of the directors whether any money had been drawn from the bank during the week. He answered as distinctly that there had not been any money drawn from the bank during that time. Now, as all cheques must be countersigned by the secretary, his answer appeared conclusive; but your chairman instantly charged the directors with drawing from the bank within the week, and without any authority from the minute books, the large sum of £7,975 3s. 6d., the cheques being dated on the 19th, and signed by the directors. The directors present appeared to be in perfect ignorance of the fact. The secretary was called upon to explain. He said that he had gone to the bank with the solicitor and the two directors, who there signed the cheque for that amount, and that the intent was to save it from attachment through the process of the Lord Mayor's Court, as three attachments had already been made by creditors. It was further stated that Major Croft received the money. This partially satisfied your committee as to its safe keeping, and the motive for drawing it out of the bank. Upon the arrival of Major Croft, he stated to your committee the facts of the case, and in conclusion said that he had given the money in bank notes to Mr. Riddell (one of the directors), to place it in safety, and he presumed that he had done so. Two days after this conversation, your chairman wrote the following note, viz. :—

“ January 24, 1846.

“ Dear Sir,—You stated to the committee of shareholders, on the 22d instant, that you gave the money—viz., £7,975 3s. 6d.—to one of your co-directors, and that he would place it in bank. Can you now inform me in what bank he did place it, or where it is now, and whether placed to the credit of the Metropolitan Railways Junction Company? As I am most anxious to be strictly correct in everything, guided by neither fear or favour, so as to be worthy of the delegated authority confided in me by the shareholders (as also by the directors themselves), you will, I am sure, instantly answer this important note, for the report

of the committee must contain every material incident. The public meeting of the shareholders will take place on Monday, February 2, 1846.

“ I am, dear sir, yours truly,

“ ‘ GEORGE JONES,

“ ‘ Chairman of the Shareholders.

“ ‘ To J. T. Croft, Chairman of Directors.’

“ On the next day the following reply was received, viz. :—

“ ‘ 15, Regent Street, Jan. 26, 1846.

“ ‘ Dear Sir,—The money in question is lodged in a bank at the west-end, to save it from attachment. It is at this moment, as to amount, in the position it was when lodged at Messrs. Currie’s.

“ ‘ Believe me, yours faithfully,

“ ‘ J. T. CROFT.

“ ‘ To G. Jones, Esq.’

“ The chairman upon receiving the above instantly wrote as follows, to which no answer has been received :—

“ ‘ January 29, 1846.

“ ‘ Dear Sir,—Your answer to my note of the 24th has been received. You reply that the money, as to the amount, is in the same position as when lodged at Messrs. Currie’s. I desire to know, on behalf of the shareholders I represent, in what bank the money (£7,975 3s. 6d.) has been placed, and whether to the credit of the Metropolitan Railways Junction Company? That I have repeated these questions has arisen from your silence upon those important points; for although I will not question that the motive of its removal from Messrs. Currie’s was to save it from attachment, yet there is no authority upon the minute book of the directors to draw out the money. I am sure you will appreciate the delicate position in which I am placed; but my duty now to the public will be paramount to all private feeling.

“ ‘ I am, dear sir, yours truly,

“ ‘ GEORGE JONES.

“ ‘ To J. T. Croft, Esq.’

“ The chairman of your committee was requested (by an unanimous vote) to draw up this report (as also that upon the amalgamation), founded upon facts, and the original documents of the Company. He has done so, without fear or favour, and in despite of threats from certain officers of the Company; the members of your committee, therefore, call upon the shareholders to receive and adopt this report, and to support the chairman in his delicate and responsible authority.

“ Approved by the committee upon the accounts and affairs of the Company.

“ GEORGE JONES.

“ London, Feb. 2, 1846.”

WOLVERHAMPTON, BIRMINGHAM, AND NOTTINGHAM RAILWAY.

The conduct of the managers of this Company has attracted attention, as the following circular will show:—

The attention of the public is particularly called to the disgraceful proceedings of the concoctors of this scheme, whose treatment of their unfortunate scripholders far exceeds anything that the exposures of the late scheming in embryo railway Companies has brought to light. The following are a few facts bearing on this extraordinary business, which certainly calls for the severest reprobation of all honest men.

This bubble was brought forth when the railway mania was on the decline, and was ushered into existence with the following glowing prospectus:—

WOLVERHAMPTON, BIRMINGHAM, AND NOTTINGHAM RAILWAY COMPANY.

(Provisionally Registered.)

Commencing at Wolverhampton, and proceeding to Nottingham, through or near Wednesfield, Bloxwich, Pelsall, Walsall, Oglehay, Lichfield, Whittington, Tamworth, Swadlincote, Seal, Measham, Ashby-de-la-Zouch, Staunton, Melbourne, Worthington, Breedon, Isley, Walton, Diseworth, Castle Donnington, Hemington, Lockington, and Sawley or Long Eaton station, on the Midland Railway, with a branch from Staunton to Wilkington, on the Derby and Birmingham line.

CAPITAL, £1,000,000, in 50,000 shares of £20 each.

DEPOSIT, £2 2s. per share.

PROVISIONAL COMMITTEE.

Hon. C. P. Villiers, M.P. for Wolverhampton.

Sir Wm. Boothby, Bart., Ashbourne Hall, Derbyshire.

The Mayor of Nottingham.

Sir Wm. Lowthrop, of Alger House, Hull, and Scarborough.

Lieut.-General Sir Robert Barton, 2, Montague Place, Montague Square, London.

Col. Gillies, Porchester House, Bayswater.

David Wheatcroft, Esq., Buckland Hollow.

Richard Fryer, Esq., Banker, Wolverhampton.

Edward Munk, Esq., Nottingham Park.

Daniel M'Mahon, Esq., Wolverhampton.

Richard Biddle, Esq., Nottingham.

Thomas Adams, Esq., Lenton Firs, near Nottingham.

Wm. Taylor, Esq., Nottingham.

Jonathan Benton, Esq., Carrington.

Richard Birkin, Esq., New Basford.

J. F. Bishop, Esq., Nottingham.

Henry Smyth, Esq., Park.

Thos. Hopkins, Esq., Nottingham.

Henry Cartwright, Esq., Nottingham.

W. C. Bowden, Esq., Ashby Hall.

F. P. Hewitt, Esq., Nottingham.
 Wm. Page, Esq., Bobbin Mill, near Nottingham.
 J. L. Davenport, Esq., Derby.
 Wm. Gibson, Esq., Nottingham.
 Thos. Gee, Esq., Nottingham.
 Wm. Gill, Esq., M.D., Nottingham.
 Bell Fletcher, Esq., M.D., Birmingham.
 David Bolton, Esq., Birmingham.
 Edward Starkie Triton, Esq., Liverpool.
 W. B. Watts, Esq., Birmingham.
 James Webbs, Esq., Wellington.
 James Fisher, Esq., Bilston, Staffordshire.
 William Griffiths, Park House, Wellington.
 Thomas Rundall Andrews, Esq., Wolverhampton.
 John Neve, Esq., Wolverhampton.
 William Tomkinson Riley, Esq., Mill Field Ironworks.
 William Rigton, Esq., Old Hall, Wolverhampton.
 Joshua Bower, Esq., Leeds.
 Joshua Bower, Jun., Esq., near Leeds.
 William Raines, Esq., Temple, London.
 Francis Gamble, Esq., Gainsborough.
 George Gamble, Esq., Gainsborough.
 Walter Augustus Lewis, Esq., Wolverhampton.
 Matthew Sooby, Esq., Gainsborough.

COMMITTEE OF MANAGEMENT.

The Mayor of Nottingham.
 Daniel M'Mahon, Esq.
 Joshua Bower, Esq.
 William Ryton, Esq.
 Jonathan Burton, Esq.
 George Gamble, Esq.
 Wm. Tomkinson, Riley, Esq.
 James Fisher, Esq.
 David Wheatcroft, Esq.
 Thomas Randle Andrews, Esq.

SECRETARY.—Robert P. Thacker, Esq.

ACTING ENGINEER.—James Gilbert, Esq.

SOLICITORS.—Messrs. Capes and Stuart, No. 1, Field Court, Gray's Inn, London; Mr. Thomas Bolton, Wolverhampton; Messrs. W. and S. Parsons, Jun., Nottingham; Mr. Charles Simpson, Lichfield.

BANKERS.—Messrs. Spooner, Attwood, and Co., London; Messrs. Moore and Robinson, Nottingham; Messrs. Fryer and Son, Wolverhampton; the Bristol District Banking Company, Wolverhampton.

This Company has been established at the instance of a numerous body of the manufacturing and trading community at both ends of the line, for the purpose of supplying those facilities of communication which the existing lines of railway have entirely failed to afford.

The line will proceed through or near to the above mentioned places, and will be a saving of distance between Nottingham and Wolver-

hampton of nineteen miles, and accommodate a population of 300,000 upon the direct line. There will also be a branch line at Staunton to Willington on the Midland Railway, and the communication with Birmingham will be formed by a junction with the Midland Railway in the neighbourhood of Tamworth.

The enormous amount of business transacted between the important manufacturing towns of Birmingham, Wolverhampton, Nottingham, and the adjacent populous districts, will ensure a very considerable local traffic; and when it is considered that it will be the means of bringing those populous districts within a few hours' distance of the seaports of Gainsborough, Hull, Grimsby, and Yarmouth, by means of the Gainsborough and Grand Union railways, the line must be considered one of the most useful and profitable of any of the new projected schemes.

Power will be applied for in the Act to allow interest at the rate of £4 per cent. per annum on the amount of the deposit and upon the further calls, from the date of each payment until the opening of the line.

Shareholders in the Grand Union Railway Company, and in the Nottingham and Gainsborough Railway Company, and parties locally interested, will have a preference in the allotment of shares.

Applications for shares may be made to the solicitors and to the following brokers:—Messrs. Boyd, 4, New Bank Buildings; Mr. Cancellor, 1, Cushion Court, London; Messrs. Cardwell and Sons, and Mr. W. Haynes, Manchester; Messrs. Townley and Whitehead, Liverpool; Messrs. Chantrell and Boyes, and Edward King and Co., Leeds; Mr. Payne and Mr. Harris, Wolverhampton; Mr. Lane, Birmingham; Mr. Senior, Sheffield; and Messrs. Roworth and Shepperley, Nottingham.

Spite of all the advantages of this "most useful and profitable" scheme, the sinews of war were not forthcoming, and although the applications for shares were reported to exceed 1,000,000, still no more than some 4,500 were paid on. In this state of affairs the managers of this pattern Company should at once have abandoned the scheme, and have avoided all further expense. But what has been their course? From the early part of October till the issue of the annexed circular, all trace of the Company seems to have been lost. Such a manifesto certainly has not its parallel.

"WOLVERHAMPTON, BIRMINGHAM, AND NOTTINGHAM RAILWAY COMPANY.

"Wheeler Gate, Nottingham,
"January 21, 1846.

"Sir,—The committee of management have to express their regret that the amount paid on the letters of allotment in this Company, did not exceed one-tenth portion of the required parliamentary deposit. They were, therefore, necessarily compelled to suspend all operations except those previously entered into; and they are now anxious to ascertain the sense of the shareholders, as to the winding up, or otherwise, of the affairs of the Company.

"The account on the other side will shew the present state of the finances. In addition to which, it is apprehended that some litigation may arise with persons whose enormous and extravagant demands the

directors will deem it their duty to contest; and this, of course, would increase the liabilities, and occasion considerable delay. In order, however, that the shareholders may at once know their position, it is proposed that the sum of fifteen shillings per share be forthwith returned to those of them who are willing to receive it; and that the provisional committee be called upon to make up all deficiencies after such payment.

"It is not improbable but that, in an improved state of monetary affairs, a project of such great public importance as the above may meet with renewed and powerful support; and as offers of amalgamation with one or two other Companies have already been received, the directors contemplate a revival of the scheme. You are, therefore, at liberty to choose between reserving your scrip and agreeing to take fifteen shillings per share.

"Your reply is most respectfully requested on or before the 1st day of February next, after which an early day will be fixed for sending in the scrip.

"I am, sir,
 "Your very obedient servant,
 "ROBERT P. THACKER, Secretary."

AN ABSTRACT OF THE RECEIPTS AND EXPENDITURE.

Dr.			
By amount of shares taken up	-	-	£9,667 17 6
<hr/>			
Cr.			
Advertising and printers' accounts	-	-	£600 0 0
Travelling expenses	-	-	150 0 0
Engineering expenses	-	-	1,050 0 0
Expenses of meetings, office expenses, including rent and clerks' salaries, &c.	-	-	600 0 0
Paid solicitors' expenses and disbursements	-	-	2,100 0 0
Agency expenses	-	-	550 0 0
Outstanding disputed accounts	-	-	2,050 0 0
Balance in hand	-	-	2,567 17 6
			<hr/>
			£9,667 17 6

Mark the above statement of accounts! £9,667 17s. 6d. received! balance in hand, £2,567 17s. 6d.! No particulars given, but sums lumped down *ad libitum*! £2,100 shared by the solicitors! £600 for expenses of meetings, and office expenses! Engineering expenses (for which no plans have been lodged), £1,050! Outstanding disputed accounts, £2,050, concluding with the offer of a return of 15s. per share, out of 42s. paid! This attempt to relieve the directors from their personal responsibility, by paying their liabilities out of the money of the allottees, is of an atrocious character, considering that, with the exception of four or five, not one of the provisional committee have taken up a single share!

No meeting of the scripholders has ever been called, nor any attempt made to render justice to them; but so anxious are all parties connected with this disgraceful business to hurry the proceedings of the Company

into oblivion, that those holders who are reluctant to submit to a deduction from their deposits of £1 7s. per share, have been again stimulated by the following circular:—

“WOLVERHAMPTON, BIRMINGHAM, AND NOTTINGHAM RAILWAY COMPANY.

“Wheeler Gate, Nottingham, Feb. 6, 1846.

“Sir,—You are requested to forward your scrip, or banker's receipt, to the Company's offices, Wheeler Gate, Nottingham, (for the purpose of their being examined and registered), preparatory to the payment of 15s. per share, which will be immediately paid, on personal application, or be remitted by cheque to those residing at a distance.

(By order)

“ROBERT P. THACKER, Secretary.”

In what a different light must the conduct of these parties stand to that of the promoters of many of the defunct schemes, who, content with a contribution of 2s., 3s., or 4s. per share from their allottees, have honourably returned them their deposits, and compelled the members of their provisional committees to make up the deficiency.

DIRECT LONDON AND EXETER RAILWAY COMPANY—
SPECIAL MEETING.

(From the *Railway Times*.)

As we have devoted so much space to the Direct London and Exeter Railway, we think it necessary to add the following documents.

A crowded meeting of the scrip and share holders in this railway was held in the large room of the London Tavern, on Monday last, in consequence of the following advertisement:—

“DIRECT LONDON AND EXETER RAILWAY.—At a meeting of shareholders in this Company, held at our offices, on the 2nd of February instant, it was resolved, that a public meeting of the share and scrip holders of the Company, should be called for the purpose of discussing the propriety of and adopting such measures as should be deemed expedient for sustaining the project. The share and scrip holders are, therefore, earnestly requested to meet at the London Tavern, Bishopsgate Street, on Monday, the 9th day of February instant, at two for three o'clock precisely.

“VALLANCE AND VALLANCE,

“February 4, 1846.”

“Solicitors, 20, Essex Street, Strand.”

We may state that the morning papers of Saturday, containing the following advertisement, which we insert, and the names of the gentlemen signing it, were frequently referred to in the course of the proceedings.

“TO THE SHAREHOLDERS OF THE DIRECT LONDON AND EXETER RAILWAY COMPANY.

“It will be in the recollection of the shareholders that at the general meeting of December last, a resolution was passed that the undersigned

should constitute a committee for the management and investigation of the affairs of the Company.

"The undersigned having proceeded diligently in the execution of this task, and having subjected the accounts to a rigid examination, the result has been that they have hitherto succeeded in effecting a considerable reduction from the original demands, and this independently of the extravagant claims of the engineer, which they are now engaged in resisting.

"Having submitted Mr. Braithwaite's plan and section to the revision of an engineer of great talent and experience, the undersigned have been advised by him that the line should be examined at several points, with a view to its general improvement, and to a great abatement of its costs as at present designed.

"As soon as such investigation shall have been completed, the result will be communicated to the shareholders; in the meanwhile, the undersigned have been, and are now, exerting themselves to obtain an accession of strength on the committee, in conformity with the resolution passed at the last general meeting.

"The plans and sections have been deposited at the Private Bill-office, with the view of going before Parliament, if possible, as a project.

"Incessant labour since the 15th of December has not enabled the undersigned as yet to make an explicit report upon all the matters referred to them; but such report will shortly be ready, and put into the hands of the shareholders.

"It has, therefore, been thought useless to call another meeting at the present moment; and the undersigned wish to give this notice, that the meeting advertised to be held on the 9th of February, has not in any way been authorised by them, or by Messrs. Stokes, Hollingsworth, and Tyerman, the present solicitors of the Company.

"J. P. B. CHICHESTER.

"ROBERT J. PHILLIMORE.

"J. D. CHAMBERS."

John Greathead, Esq., presided, and the advertisement calling the meeting having been read,

The Chairman requested Mr. Vallance to state the circumstances which had induced him to call the present meeting.

Mr. Vallance then rose and said he had been requested to take the course adopted by him in consequence of having been consulted by a number of shareholders interested in the project; and having made inquiries into the proceedings of the committee of management, he felt satisfied that some measures ought to be adopted which would have the effect of satisfying the shareholders that their interests were protected, and of restoring the confidence which was now fast expiring. The result was, he had taken great pains to ascertain the feelings of all persons interested, and particularly of those locally interested, and the satisfactory replies he received induced him to call this meeting, and he now stood backed with the opinions and support of the holders of nearly 4,000 shares.

There had been, and there are now, many differences of opinion among the shareholders; but there was, he believed, one point on which there existed no difference of opinion, namely—that the past management

had so *mismanaged* the affairs of the Company that confidence could no longer be reposed in them. (Cheers.) Of course he had had but one object in the first instance, that merely of doing justice to the interests of his clients. He was quite ready to admit the principle that the claims of individuals must be postponed to the interests of the general body, but he must confess that after seeing Mr. Colombine's pamphlet he had determined to ascertain whether something might not yet be done for the shareholders without their at the same time incurring any further expenditure. He knew that the public had approved the scheme; he knew they had every assurance of success; and that when the embarrassments of the Company were first made public they had—and he believed they now had—ample funds. (Cheers.) He had had letters from all parts of the country expressive of this satisfaction. But now he confessed they were placed in some difficulty in consequence of the opposing committee. Very stringent resolutions had indeed been passed at the last meeting, but no steps had been taken for carrying these resolutions into effect. All he hoped from their meeting that day was, that they should pass resolutions which might give the shareholders a *locus standi* when they should come before the House of Commons, or otherwise to dissolve the Company. He had sought and obtained an interview with Mr. Colombine, and that gentleman had communicated to him such facts—facts of a bad character indeed, so bad, that if only one-third of them were true, it was high time the shareholders should use urgent efforts to recover their money, by adopting such proceedings as might be found necessary. He himself had nothing to charge against Sir Bruce Chichester, Dr. Phillimore, or Mr. Chambers, previous to the 15th of December last. He would now leave Mr. Colombine to detail to the meeting the facts which he had communicated to him (Mr. Vallance).

Mr. Colombine having read the resolutions passed at the last meeting, said, that having taken an important part in establishing the Company, it might be expected that, at a meeting like the present, he should make some observations. He would leave a great many of the statements that appeared in his pamphlet, published a short time since, to speak for themselves. The statements there adduced had not met with any answer, directly or indirectly. The great point of difficulty under which he had been placed, was that of having been officially connected with a body of persons, who had gradually lost the good opinion and confidence of the shareholders. He had found himself, to a certain extent, tongue-tied. He was precluded from a notion of confidence, which he now found falsely placed, from taking any voice against them, and he had been driven to the course he had now adopted of alienating himself from them, and consulting the interests of the shareholders. On the 15th of December last, a meeting of the Company was held, when Sir Bruce Chichester was in the chair. The whole argument used upon that occasion was, that though there had been gross mismanagement on the part of the committee who had preceded them, that the present committee, as regarded Sir Bruce Chichester, W. Chambers, Esq. and Dr. Phillimore, were free from it. The chairman on that occasion professed the regret of the committee for what their predecessors had done, and stated the desire they felt was to make "clean breasts," and avow every thing fairly to the subscribers. That

was the effect of the address made on the 15th December last. Now he (Mr. Colombine) felt it would be his duty to lay before the meeting important facts relative to the charges now made, which affected the committee, including especially those gentlemen who joined it since the allotment committee had been appointed, namely, Sir Bruce Chichester, Mr. Chambers, and Dr. Phillimore. The first item charged at that meeting was £4,346 11s. 3d., for preliminary expenses. Now this sum was alleged to include a sum of £812 10., stated to have been paid to him as the agreed amount for his services in the construction and promotion of the Company from the month of May to September last. That sum had never been paid to him, and he believed a sum of £500 to another party had been included, which had not been paid, as was represented by some of the speakers. Another item charged, was engineering and surveying, £14,050. He (Mr. Colombine) knew that a sum of £8,105 had been paid to Mr. Braithwaite; but in anticipation of this meeting he had requested that gentleman to attend and explain the facts. Mr. Braithwaite, however, was unfortunately detained at the House of Commons, but the following letter received by him would throw some light upon the subject.

“ DIRECT LONDON AND EXETER RAILWAY.

“ 39, Bedford Square, Feb. 6, 1846.

“ Dear Sir,—The statement made by Sir Bruce Chichester, at the meeting of the shareholders of the above line, on the 13th December last, *was false*. The impression made upon the meeting could be no other than what was stated by the chairman, that the engineering amounted to £14,000 and odd, and that that sum had been paid to me, subject to an understanding that the charges were correct, or something to that effect. I have the shorthand-writer's notes by me, but cannot lay my hands upon them at this moment; whereas the only statement of accounts I had then delivered did not amount to £12,000, and including the £600 preliminary expenses, a cheque for which amount *you paid* me. I had not then received more than £8000 for expenses, and £105 my retaining fee. Since that period I have not received one sixpence, although Sir Bruce Chichester told me on the morning of the meeting, that he had received cheques for me, and would give them to me after the meeting. I have also a copy of a document made out by the committee, *falsely* showing they had paid me £10,605. After the meeting I applied to Sir Bruce Chichester for my cheques, but they were not forthcoming. In consequence of this conduct, I have thought it right to commence proceedings against five of the provisional committee men, and caused writs to be served for £5,500 and odd upon the worthy chairman, Sir Bruce Chichester, Doctor Phillimore, Mr. Spicer, and Mr. Chambers.

“ I am, dear Sir,

“ Yours very faithfully,

“ JOHN BRAITHWAITE.

“ P. S.—You have my permission to make any use of this letter you may think proper.

“ — Colombine, Esq., 8, Carlton Chambers.”

The third item charged by the chairman was £8,791 for law expenses. Now, with regard to that item, the meeting would be surprised to hear that, at the very moment that Sir Bruce Chichester announced it, he (Mr. Colombine) had never received one shilling for his services, though he was the promoter and principal solicitor to the line.

It was indeed correct, that two sums of £4,000 and £500 had been previously paid to Messrs. Hollingsworth and Tyerman. What would the meeting think of the following remarkable facts, which occurred on the 16th of December, the day after the meeting he had referred to?—On this occasion, he (Mr. Colombine) called on Sir Bruce Chichester, who gave him a cheque for £500 towards his costs, and informed him that a sum of £1,750 had been that day paid to Mr. Tyerman. He met Mr. Tyerman on the same day, and questioned him as to this fact. That gentleman did not appear to know the cheque he held was for that sum, or why it was paid! He took it, believing it to be for £170 only! Curious and pleasant error! The cheque was retained towards the costs of both solicitors.

The £500 was the only sum he (Mr. Colombine) had ever received for his costs, excepting, indeed, having £450 subsequent to that period from Mr. Tyerman, but which was matter of account between the two solicitors, with which the Company had no concern, and might be returnable to Mr. Tyerman in case of any deficiency in settling their accounts hereafter.

Passing over, however, the other items charged, the result of all was stated by Sir Bruce Chichester to be a balance of £492 only in hand. Such was the statement made by Sir Bruce Chichester. Now he (Mr. Colombine) charged the chairman with having, at that very moment, in his pocket, £10,000 in money or exchequer bills belonging to the shareholders, and Sir Bruce actually admitted such to be the fact in a conversation held on the 16th of December. He would next advert to a fact mentioned in his pamphlet, but the further details of which he would give. He stated that a sum of £5,000 had been voted to the finance committee, on the 23rd October, in Sir Bruce Chichester's presence. The finance committee had, however, at that time actually anticipated the vote, and drawn two sums of £300 and £500, so that there remained £4,200. Out of this sum the finance committee, Sir Henry Pynn, Mr. Blundell, Mr. Evans, Mr. Healey, Mr. Shairp, and Mr. Spicer, or some three or more of them, drew cheques for £4,000, which sum was placed by them, in the names of a portion of them (not all), in another bank, as their own money. The secretary, Mr. Blundell, was afterwards relieved of the duties of honorary secretary, and was required to deliver up his books, papers, and accounts. This he refused to do, and a vote of censure was passed against Mr. Blundell by his *innocent* colleagues, and he was required to refund a balance which the finance committee alleged was due from him. (Hear, hear.) This balance was *exclusive* of the cheques for £300 and £500, which had never been brought to account in any way. Application was next made to Mr. Blundell to sign the cheque for £4,000, so as to bring back that sum, so improperly put aside, to the credit of the Company with their bankers. He refused, and claimed a compensation for services, and a balance of account was now stated to be due to him. Sir Bruce Chichester admitted that, without any resolution of the board, and

without consulting the solicitors of the Company, he had actually consented to, and received from the finance committee, either the £4,000 given in exchange for £1,500, or else that he had received the £4,000, less a sum of £1,500. In other words, that he had allowed out of the money of the shareholders £1,500, because a certain member of the committee "had come to him, with tears in his eyes, and stated he should be posted as a defaulter on the Stock Exchange, if certain debts or sums expended in buying shares at the instance of the individual were not paid." (Loud cries of "Shame.") Under such representations and inducements had Sir Bruce Chichester acted, and injured the Company to the extent of the £1,500 so allowed. There was another important fact to be mentioned to the meeting. The subscribers were aware, under a recent Act of Parliament, called the "Joint Stock Act," all members of a committee of management especially, were required to have their names duly registered, which was done by the members signing their names on forms supplied for the purpose, and entered at the proper office. The other directors had been registered by Messrs. Stokes and Co., but he had discovered that Messrs. Chambers and Phillimore had not done so. To prevent any error as to this, he applied to the committee on the 8th of January, and asked Dr. Phillimore if he was registered. He refused to answer the question; on which he (Mr. Colombine) informed him he could not properly sit at the board. In consequence of this refusal, he on the next day addressed the following letter to the secretary:—

" 8, Carlton Chambers, Regent Street,
" 9th January, 1846.

" Dear Sir,—My attention having been drawn to the omissions of the committee to cause their names to be registered pursuant to the Act 7 & 8 Vict., c. 110, the instructions for which I had presumed had been given to Messrs. Stokes and Co., and duly effected, I feel it necessary, as promoter of the Direct London and Exeter Railway Company, to require the registration paper now sent be signed and returned to me, in order that the names of Mr. Chambers and Dr. Phillimore, and any other members constituting the board since the last registration, may be duly recorded, and the provisions of the act not any longer disregarded.

" I remain, &c.,
(Signed) " D. E. COLOMBINE.

" R. Renwick, Esq., Secretary,
" Direct London and Exeter Railway."

To this letter no answer was given, and it had been ascertained that no registration had been made up to a day or two past. The consequence was, that the parties referred to had sought to retain the office of committee men in an irresponsible manner. He (Mr. Colombine) contended that the accounts laid before the shareholders showed nothing of these transactions, but that a fallacious and manufactured statement of accounts was palmed upon them. He deprecated the conduct of any committee who could so demean themselves, and he maintained that they had lost the confidence and opinion of the shareholders. He felt called on to show, on other grounds, that the

committee was not legally constituted. He had explained in his pamphlet, that the solicitors had nothing to do with the execution of the parliamentary deeds and subscription agreements. He had ascertained that when a meeting was held, on the 26th of November last, none of the committee of management had taken up any shares. The directors were pledged, by an advertisement, to hold a meeting on the 15th December. Now he affirmed that they had adopted a most colourable manner of appearing to have taken up the shares previously. He (Mr. Colombine) knew that on the 7th December none of the shares of the managing directors had been taken up, unless Messrs. Chambers and Phillimore had taken up some before they joined the committee of management. When the deeds were signed he knew not, but it must have been at some period between the 7th and 13th December, so as to deceive the subscribers and the meeting. This must have been known to all the committee. The date affixed to the directors' names was 31st October, whereas not one of the shares so dated, except those above-mentioned, were taken up and paid upon till after the 7th December. These facts had been ascertained with difficulty, but he would vouch for their accuracy, and would leave the question as to the course to be pursued to the meeting. He still thought the project could be preserved, but they would determine as to this. If it was to be sustained, he had plans for the purpose, and would lend his assistance to its support in any way best calculated to promote its success.

Humphreys Parry, Esq., Barrister-at-law, next addressed the meeting. As a shareholder in the undertaking he deprecated the gross mismanagement of the committee, an exposure of which had just been laid before the meeting by Mr. Colombine. The learned gentleman animadverted in strong terms upon the line of conduct pursued by the committee in attempting to shield themselves from the mismanagement of their predecessors, and the allotment committee. He confessed he was unprepared to hear the startling announcements made by Mr. Colombine that day, involving, as they did, the reputation of some honourable gentlemen who had acquiesced in the statements made at the previous meeting. Passing over the minor charges made against them, his attention was drawn to the grave and more serious one, affecting the honourable baronet who presided at the last meeting, viz.—that at the moment it was asserted that the balance remaining in the hands of the committee amounted to £492, it appeared from the statement made to them this day, the veracity of which he had no reason to doubt, that the chairman then had £10,000 of the shareholders' money in his pocket! Now he would ask them, as men of business, whether, if this fact were known to them at the time, would they have allowed the chairman to depart from the room without handing back this large amount of capital to those who had a legitimate claim to it—would they have agreed to the resolutions passed on that day? He did not say they were legally justified in such a course, but would not many of them have felt rather disposed to seize upon the chairman and compel him, he would not say *vi et armis* to refund this large portion of their misapplied funds, but to have made some arrangement with the shareholders for its satisfactory distribution? After extolling at some length the advantages of the line, and clearly elucidating the manner in which

the project might yet be sustained, the learned gentleman concluded by moving the following resolution:—

“That the committee of management, as now constituted, having lost the confidence of the shareholders, all power or authority given to them be withdrawn, and that the second resolution passed at the meeting of the shareholders on the 15th December last be rescinded.”

A Shareholder rose to second the resolution. He was anxious to express his opinions thus early, in order that he might call upon the meeting not to lessen the effect of the resolution, from any feeling they might entertain towards the gentlemen included in it. They might have expected that after the charges thus publicly made at a meeting, publicly advertised, they would have felt it their duty to have met the shareholders, in order to explain their conduct. As this had not been done, he called upon the meeting to record their opinion of such gentlemen, and, however high in society they might be, however respectable in their position as private individuals, there could be only one feeling at this meeting respecting them. After referring to the various matters more particularly, he concluded by seconding a resolution.

Mr. Pringle stated, he had come from Edinburgh, and had unfortunately become a subscriber to this Company. He had believed it to be, and still hoped it might be, made one of the best and most prosperous projects of the day. He was anxious that something should be done to preserve the project, and would vote for any proposition having that object in view, provided the present committee of management had no finger in it. He knew nothing of them individually—he hoped they were respectable men—but as a shareholder, he had not a particle of confidence in them, after the exhibition that had been that night made of their mismanagement.

A Shareholder begged the meeting would not, in the absence of the gentlemen about to be condemned, pass so severe a resolution. He reminded the meeting that the only intimation those gentlemen had had of the meeting was through the public papers, and the letters which had been written by Messrs. Vallance and Vallance, and he urged the shareholders to have some consideration for them. He would move as an amendment, that some gentlemen be caused to confer with the committee. [He was interrupted by several shareholders calling out “It is idle,”—“Why are they not here?”—“It was their duty to have been here,” &c., &c.]

The Chairman then asked if any one seconded the amendment? No one did so and it fell to the ground. He then read the resolution, and was about putting it to the meeting, when

A Shareholder begged to ask Mr. Vallance if any request had been made to the committee to produce their books to the meeting, for it could not have anticipated such charges as these. (Hear).

Mr. Vallance in reply would read the letters he had written to the committee previous to calling this meeting, and their reply, as also some further correspondence with them.

“20, Essex Street, Strand,

“February 3, 1846.

“Gentlemen—We have been consulted by several shareholders in the Direct London and Exeter Railway Company, and have been requested

to call a public meeting, to receive from the present committee of management an explanation of the present position and future prospects of the Company. We have to request the favour of your furnishing us with such information as may satisfy the inquiries of those by whom we have been consulted.

“ With respect to the resolutions passed at the meeting at the London Tavern, on the 15th December last, we beg to ask if the three gentlemen named in the second resolution alone constitute the present committee of management, or whether they have added to their number ?

“ As to the third resolution passed at such meeting, we beg to ask if the committee have issued any further shares, and if so, to what extent? and particularly, if the necessary amount has been subscribed ?

“ With regard to the fourth resolution, we beg to inquire if any and what steps have been taken towards placing this project before Parliament ?

“ As to the fifth resolution, we shall be obliged by your informing us if a statement of the accounts has been prepared by the committee of management, and if copies thereof have been forwarded to any shareholders ?

“ As the present period is one of critical importance respecting a scheme of this nature, we have to request the favour of your reply by six o'clock to-morrow evening.

“ Very obediently yours,

“ VALLANCE AND VALLANCE

“ To the Committee of Management of the
Direct London and Exeter Railway,
52, Regent Street.”

“ 20, Essex Street, Strand, February 5, 1846.

“ Gentlemen—As we have not been favoured with any reply to our letter of the 3rd instant, we have issued advertisements calling for a public meeting of the shareholders in the London and Exeter Railway Company, for Monday next, at three o'clock, when we trust we shall obtain such information as may satisfy the shareholders.

“ We shall esteem it a favour if you will make arrangements for the minute book, the several bankers' books, and the parliamentary deed to be produced at the meeting, as we think it extremely probable some questions may arise to call for their production.

“ Very obediently yours,

“ VALLANCE AND VALLANCE

“ To the Directors of the London and Exeter Railway.”

“ Direct London and Exeter Railway,
52, Regent-street, Quadrant, Feb. 5, 1846.

“ Gentlemen—I am instructed to reply to your letter making inquiries in reference to the present conduct of the affairs of this Company, and am to inform you that since the meeting of the shareholders, held at the London Tavern, every step has been taken in accordance with the resolutions thereat come to, and all due diligence has been used in reference thereto.

" You will, in common with the other shareholders, be furnished with the statement (when ready) of the accounts of the Company, and be informed of any meeting to be convened.

" I am, Gentlemen,

" Your most obedient and your humble servant,

" R. M. J. RENWICK, Secretary.

" Messrs. Vallance and Vallance."

" Direct London and Exeter Railway Company,
52, Regent-street, Quadrant, Feb. 7, 1846.

" Gentlemen—For a reply to your communication made yesterday to the committee of this Company, I am instructed to refer you to an advertisement which appeared in the *Times* of yesterday, also in the *Times* and *Chronicle* of this date, inserted by the committee.

" I am, your very obedient servant,

" R. M. J. RENWICK.

" Messrs. Vallance and Vallance."

He felt that he had done all that could be required of him—(Hear)—and it could not be said that he had not taken every necessary step to induce the committee to attend. They must, therefore, now take the consequence of their absence.

A Shareholder—Do you not know, Mr. Vallance, that the books and papers are at Westminster to-day, and that all the committee have been subpoenaed there, on Mr. Wontner's trial?

Mr. Vallance said that was no reason for their absence. The cause was not coming on to-day, and he saw half-a-dozen gentlemen in the room who had also been subpoenaed; and if they were here, why not the committee of management?

Mr. Colombine.—I have been subpoenaed, but I received this morning a notice to say the cause was not in the paper, and I have no doubt the committee have received a similar notice.

A Shareholder also stated that he was subpoenaed, and had received a notice that morning to say that the cause was put off.

The Chairman then read the resolution, which was declared carried.

Mr. Lucas then rose to propose the second resolution, appointing a committee of management to save the project, with power to examine the accounts. He confidently placed this before the meeting as a necessary resolution after the one which had just passed. It was admitted the project was a good one, and that means ought to be taken to preserve it, and after dilating upon the steps which it was necessary to take at this important crisis, so as to go before Parliament as a project, he concluded by moving the second resolution, namely—

" That John Greathead, Esq., John Penhall, Esq., Francis Power, Esq., and D. E. Colombine, Esq., be appointed a committee of management, with power to add to their number, with instructions and power to take such steps as they may deem necessary for preserving the project, and that they be requested to examine the accounts of the Company, and to report to a meeting of the shareholders to be called by them within one month."

The resolution having been read,

A Gentleman rose, and stated he was sorry he could not give his vote in favour of it, as he was so completely disgusted with the past management of this Company, that he should prefer to lose his money and wind up the concern. He should, therefore, move as an amendment, that the affairs of the Company be wound up forthwith, and the balance, if any, divided amongst the shareholders.

Mr. Vallance trusted the meeting would permit him to offer some remarks on the amendment proposed, in order that no misapprehension might exist in the minds of shareholders as to the propriety of voting for the resolution, or for the amendment. It was admitted that the scheme was good, and that if it had been managed with common prudence, it would have been, as it deservedly ought, one of the most important, as it would have been one of the most profitable lines in the kingdom. As, however, all had been so mismanaged up to this period by the committee of management it had been their misfortune to have had, some opportunity ought to be afforded to the shareholders to endeavour to save all that was worth having, and he only called upon the meeting this day to give him the power and authority, on their behalf, to endeavour to remodel the Company, and examine the past accounts. And he confidently asked for this on two grounds :—First, that it was far preferable that two or three persons should be deputed to go into the accounts, rather than the shareholders should have individually to claim back their money, and involve themselves in complicated law-suits; and, secondly, because no steps taken under that resolution would prejudice the rights of shareholders to do that hereafter, should it be found desirable. The shareholders would thus have the chance of saving the project, and in a proposition which would be made to them of having credit for all they paid, they could not be worse off than they were now; and he (Mr. Vallance) pledged himself to be one of the first to second a resolution for the dissolution of the Company that day month, should it be found that with the resolution he now submitted no good could be done. He felt less hesitation in asking this, when he assured the meeting this resolution did not involve any pecuniary liabilities upon any gentleman voting in favour of it. (Loud cheers.)

The Gentleman who had proposed the amendment then stated that, after the very satisfactory statement made by Mr. Vallance, he should withdraw his amendment and second the resolution.

The resolution was then put and carried, with only two dissentients.

Thanks were then voted to the chairman, and the meeting separated.

NORTH AND SOUTH WALES AND WORCESTER DIRECT.

Report of the Committee of Shareholders appointed at the General Meeting of the Great North and South Wales and Worcester Railway Company, on Saturday, January 31, 1846 :—

Your committee, in pursuance of the powers vested in them, proceeded at once, as minutely as the short time allowed for their labours would admit, to investigate the accounts of the Company and the general merits of the line. A preliminary meeting on Saturday evening, was held, and an interview was resolved on with the directors on Monday

morning, after which the following protest was agreed upon, and forwarded to the officers of the Company the same evening, at half-past eight :—

“Great North and South Wales and Worcester Railway.

“6, Founders’ Hall, Lothbury, Feb. 2, 1846.

(Half-past Eight o’clock evening.)

“Gentlemen,—Having in view the expressed opinions of the general body of shareholders, assembled on Saturday, the 31st January, that no further diminution of the funds of this proposed railway should take place, nor any removal from the present securities be allowed, nor that any steps should be taken to further its progress until after a statement of the Company’s affairs shall have been submitted to them in public meeting, we deem it our duty most respectfully, but most firmly, to enter our protest against the payment of the deposits into the hands of the Accountant-General—(Hear, hear)—and we think it only courteous to state, that if any departure from this course be made, we are prepared to recommend the shareholders to hold you collectively and individually responsible. We also beg to inform you that we have this evening made a written application to Messrs. Bush and Mullens to deliver to us their professional bill of costs, made up to January 31, not later than Wednesday next. We urge upon you the necessity of using your proper influence to see that the committee be not disappointed in this matter.

“I have the honour to be, Gentlemen,

“Your obedient Servant,

“FRED. LAWRENCE,

“Chairman of the Committee.

“To the Chairman and Committee of the
North and South Wales and Worcester
Railway, 7, St. Mildred’s Court.”

FORMATION OF THE COMPANY.

The original projectors were Messrs. Rising and Rowlands, of Worcester, who transferred the project to Messrs. Bush and Mullens—originally registered Messrs. Rowlands, A. Bush, and W. Mansell. The first directors were appointed by Messrs. Bush and Mullens. Secretary appointed by directors, introduced by the same. Other gentlemen afterwards joined the direction. Engineer and surveyors also selected by Messrs. Bush and Mullens. The original line was 112½ miles, which has been surveyed at an expense of £9,194 7s. 2d.; and the estimated cost of the whole line is as under :—

	Miles.	Cost.
Carmarthen to Aberystwith	- 50	£1,084,355 or £21,500 a mile
Aberystwith to Machynlleth	- 16½	280,236 or 17,000 a mile
Cardigan Branch - - -	- 19½	417,576 or 22,000 a mile
Newtown Branch - - -	- 26½	274,843 or 10,000 a mile
Total length - - -	- 112½	£2,057,010

Being an excess over the whole subscribed capital of £20 a share of £57,010. In this line there are required 24,701 yards of tunneling, at £35 a yard, or charges for tunneling alone, without extras, the enormous

sum of £864,535. We find, therefore, that the whole capital in 64,141 shares, at £20 each, fully paid up, would amount to £1,282,820. The estimates for a single line only is £2,057,010, being an excess over the whole subscribed capital, if paid up, of £774,190, without one shilling remaining for interest to shareholders, building carriages, wear and tear, plant, locomotives, &c. Thus much as regards the original scheme. It appears, however, that the carrying out of the whole project is now abandoned, and it is only intended to apply to Parliament for fifty miles—viz : that portion embraced between Carmarthen and Aberystwith. This shortened line is, consequently, that which now demands your immediate consideration, the remainder being at present in abeyance. The estimated cost of this portion is £1,084,355, being £21,500 a mile. In this distance there are 14,481 yards of tunneling, at £35 a yard, amounting to £506,835. Taking again the full amount of the subscribed capital on the shares issued at £1,282,820, we have an excess of cost over capital of £198,445, without any funds remaining for £25,668 11s. 10d. expenses already incurred, for future Parliamentary expenses, locomotives, carriages, wear and tear, plant, or one farthing return by way of interest to shareholders. With this single line only, it is at once obvious that the Company must begin, without allowing for any defaulters in payment, with a debt upon the shoulders of the proprietors amounting to £230,000.

TRAFFIC.

The estimated traffic is restricted to 50 Miles, and has been obtained at a cost to the shareholders of nearly £1,000, or £20 a mile. This sum was paid to Mr. Alfred Bush, a director, and brother of the solicitor, Mr. Bush.

Passengers of all descriptions	-	-	-	£55,379	16	8
Live Stock	-	-	-	52,668	4	0
Lime and Coals	-	-	-	38,700	0	0
				<hr/>		
				£146,448	0	8
Deduct one-third working expenses	-	-	-	48,816	0	2

Leaves, according to returns, an annual income of £97,632 0s. 6d., or £4 17s. 7d. per cent. on an outlay of two millions, supposing these returns are not greatly exaggerated, of which there is no doubt.

Taking, however, the estimated traffic to be correct at	-	-	-	£97,632	0	6
And deducting interest at £3 per cent. on deficiency of £178,455	-	-	-	5,753	13	0
				<hr/>		

Annual income - - - £91,878 7 6

We have only a return of 4½ per cent., without any source to look to for paying off debt, necessarily incurred in the full establishment of the Company.

MANAGEMENT OF THE COMPANY.

The committee have approached this portion of the inquiry under feelings of the deepest responsibility, that they might not only be

enabled to form an opinion as to the past proceedings, but also to arrive at an opinion how far, in their judgment, the present managers are competent to carry out an undertaking of such magnitude, should it be considered advisable or practicable to proceed. They feel bound, after a careful inspection of the minute-book, to report, that it affords the most positive evidence of a system of continued inconsistencies and irregularities. (Hear, hear). As example, we will first call attention to the minutes respecting the reservation of shares, premising that there appears no minutes as to the principle which regulated the allotment of 64,141 shares to the public. (Groaning).

	Shares.
September 20.—There appears the following provisional committee, 88 in number, 100 shares each, to be taken and paid for by November 1 - - - -	8,800
Not one of these gentlemen availed themselves of this privilege—(Hisses).	
At disposal of the managing directors :—	
Solicitors, Messrs. Bush and Mullens - - - -	600
(It does not appear that they took them up.)	
Country solicitors, six in number - - - -	600
Secretary - - - - -	-
Engineer - - - - -	-
Parliamentary agent - - - - -	-
For ten directors - - - - -	9,000
Reserved for amalgamation - - - - -	20,000
	39,000

Out of the 9,000 shares reserved for the directors, it appears that the following gentlemen, being directors, have taken and paid as under :— 1845: J. F. Bacon, Esq., 100, paid for on 29th October and 4th November; Henry Comfort, Esq., 100, 4th October, and signed the deed on the 2nd; Hon. Edward Howard, 25, 14th November, signed same date; H. B. Mayne, Esq., 25, 14th November, signed same date; Alfred Bush, Esq., 25, 9th January, 1846, signed 5th January, 1846; J. Rowlands, Esq., 25, 6th January, signed 5th January; R. Blayney, Esq., 25, 14th January, signed 5th January; J. Raikes, Esq., 25, 27th December, 1845, signed 7th December, 1845; Rev. D. Robinson, 25, 14th January, signed 5th January; Robert Rising, Esq., 1, 14th January, signed 12th January; J. Russell, Esq., 25, 6th January, signed 5th January; R. Hart, 25, and C. W. Morris, 25, not paid, but have signed deed—451 shares held by 13 directors. Thus leaving, as a drag, 8,459 shares of the capital stock of the Company, and thereby increasing the average expenses of each shareholder, and this without calculating the shares reserved for the promoters and others, which have not been taken up. Another instance of the extraordinary and contradictory proceedings of the managers, is shown by referring to a paragraph in their report submitted to you on Saturday last as follows:—

“ The directors also determined, in consequence of having relinquished the line between Carnarvon and Machynlleth, and also the Worcester Extension, to reduce the number of shares from 100,000 to 75,000, and

of this latter number it was deemed prudent to reserve 6,000 for the landowners, parties locally interested, and others. They accordingly allotted 68,911 shares to the public, and the deposit of £1 per share has been upon 64,141 shares."

Thus leading you to infer that they had never had any intention of allotting more than 68,000 shares; whereas we have on record, in the minutes of their own proceedings, that, on September 30, 1845, they resolved to authorise the issue of 15,000 more shares; and further, on the 13th of October, instructed the secretary to deliver scrip to applicants until the whole allotment amounted to 90,000. As far as this committee have been able to form an opinion, there is no satisfactory explanation of this discrepancy between the printed report and their own books. From the record of their proceedings your committee have ascertained on the 19th of December, 1845, at a full meeting of the board, it was resolved, after a letter had been read from Mr. Bacon, the chairman, recommending the shareholders to be convened together, that a general meeting of proprietors should be summoned for the 8th of January. This was confirmed at a subsequent meeting, on the 20th, and the secretary was instructed to obtain all the accounts, and to inform the solicitors of the wishes of the board, and to take such steps as were necessary to carry them into effect. In consequence of the refusal and opposition of Messrs. Bush and Mullens to follow the instructions given, it appears that this very proper resolution was abandoned. At a meeting on January 5, without the previous resolution having been officially rescinded, it was determined to require a further deposit of £1 per share; but it appears from the information the committee have obtained, that this resolution was not carried without the most extraordinary proceedings being adopted by Messrs. Bush and Mullens, viz., by compelling seven of the directors out of the ten assembled to withdraw, on the ground that as they had not signed the deed, therefore they could not legally vote on the question. (Groaning). So that, as long as these gentlemen did not oppose, by their illegal votes, the dictates of Messrs. Bush and Mullens, they were allowed to remain in undisturbed possession of their seats; but the moment they opposed them they were ignobly expelled the board room.

There is a standing order upon the minutes, "That no cheque be drawn unless countersigned by the secretary, and that all payments shall be subject to certain regulations by the directors." Notwithstanding this, cheques have been drawn, which have been countersigned by one of the clerks (Mr West) as "assistant secretary;" an appointment never made or recognised previous to these transactions, and only then so signed by Mr. West, under the order of Mr. Bacon, the presiding director. The committee have, also, further to state, that, in defiance of the earnest protest read at the commencement of this report, a sum of £42,915 has been paid into the hands of the Accountant-General; but under what authority this has been done cannot be ascertained. The only minute of the transaction appearing in the book of February 5, is as follows:—"The solicitors reported that they had this day paid to the Bank of England, to the credit of the Accountant-General, the parliamentary deposit of £42,915." With respect to the expenditure already made, and the outstanding liabilities, your committee deem it sufficient, without entering into details, to state generally that there appears in

almost every account, palpable evidence of gross overcharges, if not impositions. But as they feel that this portion of the inquiry must hereafter, under any circumstances, become the subject of a most rigid and searching investigation, they deem it unnecessary now to detain you by adducing any particular instance, except as regards the account of the solicitors delivered up to the 30th of November last, amounting to £4,444 5s. 3d., which they cannot but characterise as one of the most extraordinary documents ever submitted, and in their opinion is deserving of the severest condemnation and strictest taxation. This morning the bill to the 31st of December has been sent in, and forms a gigantic total of £7,640 17s. 11d. The present liabilities, as far as ascertainable in the short time allowed, amount to £9,344 17s. 5d. making a total expenditure of £25,668 11s. 10d., exclusive of the solicitors' bill since December, repeatedly applied for, but not delivered. In conclusion, the committee taking into consideration the enormous outlay necessary for the construction of a single line of railway, the heavy debt which at commencement must of necessity be incurred, the small and doubtful return for capital invested, the limited number of proprietors owing to the large reservation of shares, and the general want of confidence in the provisional managers and their professional advisers, cannot conscientiously recommend that this undertaking shall be allowed to proceed—(Hear, hear)—and that an immediate dissolution of the Company should take place, subject to the conditions contained in the resolutions which will now be submitted to the meeting for approval. The committee feel bound to bear testimony to the manly, straightforward assistance afforded them by Mr. Capel Hanbury, the secretary, who, regardless of his own advantage, has contributed much to the elucidation of the affairs, and the ultimate advantage of the body of proprietors, and they recommend that he be retained in his office until the whole of the transactions shall have been wound up.

(PROSPECTUS.)

WEST-END AND SOUTHERN COUNTIES RAILWAY.

From Waterloo Bridge, *via* Kennington, Camberwell, Peckham, and Deptford, to Greenwich, and forming also a Junction with, and giving the best possible Western Terminus to, the Dover, Brighton, Croydon, and all the various existing and projected Surrey, Sussex, and Kentish Railways.

(Provisionally registered, pursuant to 7 and 8 Vict. c. 110.)

CAPITAL, £750,000, to be raised in 15,000 Shares of £50 each.
DEPOSIT, £1 10s. per Share.

PROVISIONAL COMMITTEE.

Henry Arrowsmith, Esq., Bayswater.
John Benson, Esq., Park Place Villa, Maida Hill, Chairman of the
Bahia Steam Navigation Company.

George Bulmer, Esq., Belle Vue, Chelsea.
 Charles Bunyard, Esq., Upper Clapton.
 John Carter, Esq., South Molton Street.
 Luke James Hansard, Esq., Southampton Street, Bloomsbury.
 Benjamin Walker Hutchinson, Esq., Sussex Villa, St. John's Wood.
 Sir John Hare, Langham Place.
 Francis Reeve Jones, Esq., Brunswick Square.
 Thomas Reginald Kemp, Esq., Kemp Villa, Lewisham.
 Major Newcombe, James Street, Buckingham Gate.
 John Owens, Esq., Norfolk Street, Strand, and New Town, Montgomeryshire.
 Henry Penry, Esq., Finsbury.
 John Taylor, Esq., Hoxton.
 John Williams, Esq., Featherstone Buildings, and Plastanyratt, Wales.

With power to add to their number.

STANDING COUNSEL—Horace W. Meteyard, Esq., Gray's Inn; Regnier W. Moore, Esq., Lincoln's Inn.
 PARLIAMENTARY AGENTS—Messrs. Bulmer and Stride, Parliament St.
 ENGINEER—John Davis Paine, Esq.
 SOLICITOR—Henry F. Richardson, Esq.
 BANKERS—The Union Bank of London, 8, Moorgate Street, Argyle Place, Regent Street, and 4, Pall Mall, East.
 OFFICES—36, Coleman Street, London.

This line of railway presents to its shareholders and to the public a combination of advantages such as no existing or projected line has hitherto possessed. Much controversy has taken place with reference to the comparative merits of long and of short lines; and though the latter may be fed by a larger local population, yet it has always been urged, that, limited as they are to the use of that local population, they are not, like the long lines, susceptible of the progressive increase of traffic, which progressive extensions and ramifications bring to the great trunk lines. Happily, in the present instance, there is no occasion to enter into this controversy, for the West-End and Southern Counties Railway claims all the advantages applicable to both. First—As a short line, it will accommodate the immense and wealthy population daily travelling between the west end of London, Kennington, Camberwell, Peckham, Deptford, Greenwich, Blackheath, &c. Secondly—It will become the terminus line of all the great trunk lines of Surrey, Kent, and Sussex, and probably, ultimately, of the more south-western counties; and each increase of the traffic of each and of all of these lines will necessarily increase the receipts of this their western terminus line. The increased facilities of communication with this country now in preparation on the continent, also, it may be fairly presumed, promise a considerable accession to the traffic. The provisional committee invite the attention of the public to its merits in each of these capacities.

GENERAL ADVANTAGES.

1st. AS A SHORT METROPOLITAN LINE.—And here it may possibly be urged, that the success of the London and Greenwich Railway has

not been such as to encourage very sanguine expectations in this respect. But little reflection will serve to shew that the causes of this partial failure are such as cannot possibly apply to the West-End and Southern Counties Railway. These causes were the adoption of a more expensive mode of construction than subsequent experience has shewn to be necessary, and the embarrassments consequent thereon; and next, that, as a short line, it only professed to accommodate the passengers to and from the city and the district of Greenwich, whilst it has had daily to contend against the active competition of steam-boats, which perform the journey to and between similar, and even more convenient, points in very nearly the same time. Notwithstanding this competition, it has still given an immense impetus to the traffic between London Bridge and Greenwich. On the other hand, the construction of the West-End and Southern Counties Railway will be less expensive than that of the London and Greenwich. It is also well known that the traffic to and from the west end and Greenwich, now very great, was originally much greater than that between the city and Greenwich; and if it do not at present maintain its preponderance, that circumstance is solely owing to the increased facilities given to the eastern portions of the metropolis by means of the existing railway. Similar facilities given to the west end of the metropolis would soon restore that preponderance, for thousands of the inhabitants of these crowded districts would gladly avail themselves of quicker and cheaper means of access to seek a few hours of relaxation in the purer atmosphere of Blackheath and Greenwich Park. The competition of the steam-boats, so injurious to the London and Greenwich Railway, need not be feared by the West-End and Southern Counties Line, for the plain reason, that, whilst by railway the journey would be performed in less than a quarter of an hour, by river conveyance from the west-end it seldom occupies less than an hour. Hitherto allusion has solely been made to this line in reference to its extreme terminus at Greenwich; but great as is the Greenwich traffic, and confidently as the provisional committee rely on its increase, other districts, neither less populous nor less important, will be equally benefited by this line, and will equally tend to swell its revenues. From Peckham, Camberwell, and Kennington, the transit by rail to Waterloo Bridge will occupy but a few minutes, whereas, from the former points, the average journeys of the omnibusses occupy at least an hour. The numerous population of these districts, therefore, together with a smaller proportion of the adjoining districts of Clapham and Brixton, may each be expected to add their quota to the travellers by this line; so that, upon the whole, no short railway hitherto established or projected embraces districts so populous, and between which there is necessarily so much daily transit as those which come within the scope of the facilities afforded by the present plan. Independently of the public accommodation thus afforded, the experience of the town and neighbourhood of Greenwich has proved that the inhabitants of these respective districts will also be benefited by the stimulus which the construction of such a line will give to the increase of buildings, for the accommodation of the families of those engaged in business in the metropolis, and who, if convenience permitted, would prefer a suburban residence, and the consequent increase in the value of all adjacent property.

2nd. AS THE WEST-END TERMINUS LINE OF THE SOUTHERN COUNTIES RAILWAY LINES.—This line, as will be perceived from the accompanying map, will join the South-Eastern, Brighton, and Croydon Railways at New Cross; these lines, with their various ramifications, at present convey to London the whole traffic of Kent, Surrey, Sussex, and the Continent. At Deptford the line will join the Greenwich Railway at the point of junction selected by the proposed Kent (Northern and Central) Railways; and, by a future and comparatively inexpensive branch line, it might also be made to afford the much-wanted and long-desired west-end terminus to the South Western line, and consequently receive the traffic of the south-western counties, whilst at the same time giving increased accommodation to various localities adjacent to the metropolis not hitherto alluded to.

That a terminus line in the direction now laid down has long been sought for is well known; and the South Eastern and South Western Railway Companies have at length tardily shewn their desire to approximate nearer the west-end of the metropolis, by proposing extensions to Hungerford Bridge, which, as it only affords accommodation to foot-passengers, is obviously far inferior to a Waterloo Bridge terminus. The Brighton and Croydon Railway lines have hitherto made no movement indicative of their intention to procure for themselves this great desideratum.

The reason why the long lines have hitherto refrained from attempting this undertaking is plain. The cost of constructing such a railway through house property, for their own traffic only, is to them so disproportionately large, that none of the existing lines could make it with the slightest prospect of a profitable return for their expenditure, so far as regards the extension line, inasmuch as the traffic they would bring to it would be wholly unequal to the expense of its construction; and though by so doing they would better accommodate the public, they would as certainly sacrifice the pecuniary interest of their shareholders. The cost of the purchase of property for a line of railway through metropolitan districts is the same, whether the passengers on that railway be counted by thousands or by hundreds per diem. No Company, therefore, but one such as this, which looks to the enormous short traffic as one great staple item of their remuneration, and which can also, at but little increased expense to themselves, construct parallel lines on the same viaduct, for the undelayed transit of the traffic of, and thus give the acquired accommodation to, the longer lines, could probably afford to undertake such a task. To such a Company, the contributions from the southern lines, though in themselves inadequate, will still form no insignificant proportion of its revenue; and will aid in securing its permanent prosperity, by establishing it on the widest possible foundation. The provisional committee, therefore, confidently anticipate the ultimate support of the South Eastern and South Western shareholders, and their ready junction with a line which will give them all the advantages they can possibly desire, at an infinitely cheaper rate than they can obtain those advantages for themselves. In that event the annual returns, which have been calculated upon the extreme minimum, would be materially increased. Should these Companies, however, persist in obtaining exclusive terminus lines for themselves, and should these lines be sanctioned by parliament, that circumstance in no way affects the calcu-

lations of this Company. On the contrary, it will become more imperatively necessary, in a public and parliamentary point of view, that the other Sussex, Surrey, and Kentish lines should have the equally convenient terminus line which this Company is ready to afford them,—at once with a due regard to the space they may require for their terminus, and without the interposition of a single engineering difficulty.

THE LINE, ROUTE, &c.—The contemplated line is nearly five miles in length, and will be partially carried on a viaduct and partially on an embankment. It traverses in great part the open ground, and, where houses are required, they are of comparatively inexpensive purchase. The extensive terminus of the Company's line at Waterloo Bridge will involve only the removal of five or six houses, and the construction will be so arranged as but slightly to deteriorate from the value of the wharf property. Proceeding direct from Waterloo Bridge to Kennington, (as will be seen by the accompanying map,) the line avoids the ornamental property of the Archbishop of Canterbury: it then proceeds, at the rear of Kennington Common, parallel with the Camberwell New Road to Camberwell and Peckham; subsequently, by a very short branch, joins the South Eastern, Brighton, and Croydon lines at New Cross; whilst the main line, crossing above the latter, proceeds to its final junction with the Greenwich Railway at Deptford: thus forming, for all the above-mentioned purposes, the nearest, the most direct, indeed, the only line of communication that can be made. For all practical purposes it is on a dead level; and should, therefore, the atmospheric principle prove more economical in working, it could on this line be adopted with peculiar advantage.

SURVEYS, ESTIMATES, &c.—The estimates of construction and the cost of property required have been made with the greatest care, subsequently to an accurate and minutely detailed survey of the whole line. The parliamentary surveys are in a forward state of completion; and, as the owners of the property are generally favourably disposed, there is nothing to prevent the measure being submitted to parliament in the most complete state, at the earliest moment consistent with its regulations. The forward state of all these matters will give the provisional committee ample leisure, during the present session, to watch over and guard the interests of their shareholders, as they may from time to time appear likely to be affected by the various schemes now submitted to parliament; and also provisionally to effect satisfactory and economical arrangements with existing and future Companies, and with the owners of property, so as to avoid all chance of those parliamentary oppositions which invariably end in hasty compromises, and which inflict alike on Companies and their opponents a vast amount of needless and unprofitable expenditure.

TRAFFIC.—In calculating the probable amount of traffic on this line, the provisional committee have been most anxious to adopt the lowest possible estimate; and personal observations, carefully and accurately made, have been alone relied on. It is customary to make an allowance for doubling, and frequently for a still greater increase upon the existing amount of traffic, and experience has generally proved such calculations to be correct. But the provisional committee deem it more prudent not too highly to excite expectations of which possible, though most improbable, contingencies might prevent the fulfilment. They, for obvious rea-

sons, believe, that although beaten by railways in point of time, and equalled in lowness of fares, steam-boats will still continue to carry passengers, though not in the same proportion as at present. Nor are they sanguine enough to believe that all private vehicles will be suppressed on account of the facilities which they propose to afford. Instead, therefore, of reckoning on an increase of the existing traffic, they have founded their calculations upon the minimum of two-thirds of that amount in the Greenwich district, one-half of that amount in the Camberwell and Peckham districts, and of one-fourth in the Kennington, Clapham, and Lower Brixton districts. This they have done in the full confidence that they have taken the extreme minimum, and that their forbearance in this respect will be duly appreciated.

Upon this minimum estimate the number of passengers by the above line, to and between the several stations, would amount to 90,888 weekly; which, at an average passenger fare, 4 <i>d.</i> , would make the gross annual receipts from short line traffic	£78,717 12 0
Add for extra revenue derivable from Greenwich, Camberwell, Deptford, Charlton, and Croydon fairs, launches, and reviews at Woolwich, &c.	6,000 0 0
	<u>£84,717 12 0</u>
Deduct 40 per cent for cost of locomotive power, wear and tear, and management	33,887 1 6
	<u>£50,830 10 6</u>
Net annual revenue from short line traffic	£50,830 10 6
Being nearly 7 per cent. on the whole capital.	
Add estimated amount of tolls from the Southern Counties Railway lines, excluding, at present, the South Eastern and South Western Companies, and also excluding the various Kentish, Surrey, and Sussex contemplated railways	21,840 0 0
	<u>£72,670 10 6</u>

Or between 9 and 10 per cent. per annum upon a minimum estimate of traffic greatly inferior to that which at present exists.

DIRECT LONDON AND EXETER RAILWAY.

Since the previous statement was put in type, we have received the following letter from Mr. Harris:—

“To SIR BRUCE CHICHESTER, BART.

“Sir,—Since I had the honour to address you last, a meeting of shareholders has been held, and resolutions passed declaratory of a want of confidence in yourself, Dr. Phillimore and Mr. Chambers. All this was natural enough, Sir Bruce; the supineness of your conduct since your meeting has greatly exceeded the sincerity of your professions made to

us on that occasion. You are deposed, Sir Bruce, and we have now a government with Mr. Colombine at its head. He is a free trader in duplicity—you were a monopolist of indolence. Your antagonist has the presidency of the *new* board, and no doubt will uphold the honour of it with proper dignity. It is a just reward for his indefatigable activity in opposing every excellent resolution of the committee of management, for his implacable hostility to many of its most zealous, honourable, and responsible members, and for his profound trickery and treachery to yourself. His perseverance in attempting to misrepresent and impugn the conduct of his former allies, entitles him to a distinct memorial of their consideration and esteem.

“From the revelations made at the meeting on Monday last, the shareholders discovered, for the first time, that the funds of the Company were not suffering from such severe reduction as your tabular statements had expressed. In fact, the finance patient’s pulse was in a more healthy state than his doctor felt pleasure in admitting, and that, instead of £495 being the total balance in your custody, the actual sum was £10,000, which, for the sake of security you had carefully lodged in your own ‘left hand breeches pocket,’ where it was latently deposited at the very moment the execrations of the duped and plundered shareholders were being showered upon the devoted heads of the old committee. This extraordinary discrepancy, Mr. Chairman, demands immediate elucidation or denial. There was either a lack of integrity in the motives which suggested your statement, or an entire absence of veracity—an unabashed contempt for truth—in the disclosures made by Mr. Colombine on Monday last. It is a dangerous thing to commit evil that good may come out of it. I hope, Sir Bruce, it has been your first experiment, and that your anticipations may not be disappointed.

“At your meeting, on the 15th of December last, I ventured to suggest that your policy in dealing with aggregate amounts only was very objectionable and unsatisfactory; for I saw, Sir Bruce, that you were a little tender of detail—felt it humiliating, perhaps, to descend into the regions of distinct enumeration, and preferred soaring in the lofty sphere of totality! You kept far beyond the compass of our circumscribed comprehensions, and Mr. Colombine lost himself in the mazes of fallacy. But *your* wings, Sir Bruce, were neither broad nor strong enough to support you long. Your jealous antagonist watched with sleepless patience the advent of your descent, and then mercilessly plucked every feather from your pinions, leaving you the heavy incumbrance of wings, without their usefulness. It was the fulfilment of his intentions towards you; he first deluded, and then betrayed you. You ought to have seen there was something about him which even treachery could not trust—‘with hoary whiskers and a forky beard,’ he looked the very personification of his passions. But what caused the change to come over the spirit of his dream, Sir Bruce? At the termination of the proceedings on the 15th of December he was exceedingly liberal of his fulsome eulogy; he lauded you in the highest language of encomiastic flattery. ‘Inspire me, Phœbus, in my Delia’s praise,’ was his frequent and fervent prayer. How, and in what manner, hapless Sir Bruce, have you sacrificed that excellent man’s good-will? What ‘momentous question’ was there between you? ‘The sprites of fiery termagants in flame’ are not so dreadful as his ‘imperial anger.’ He thought the importance of *his*

case needed a pamphlet, and, to secure select readers, he adopted the professional precaution of charging for his book; but you, Sir Bruce, feigned an indifference, which I fear you never felt. I cannot think your courage failed you. There is something sublime in witnessing an honest man receiving the scoffs of the wicked with meek resignation; it is an inspiring thing to see gentle innocence abashing hardened guilt. 'Not proud Olympus yields a nobler sight;' but it would have been more satisfactory to us poor, plucked, and patient shareholders, if you had adopted a course more in unison with our wishes, and more compatible with the principles of good faith and fidelity, which were exchanged between us when we voted you our confidence, and nominated you the guardian of our interests.

But—to recur again to the discrepancy between your statement, Sir Bruce, and Mr. Colombine's—suffer me to inquire which of you has told the truth? Mr. Colombine states that £14,080 had not been paid for engineering and surveying expenses; that £8,750 had not been paid for law expenses; that £4,000 had not been lost by the finance committee. We congratulate ourselves, should such be the fact, that a larger balance than £495 remains in your protecting hands. I presume your statements, Sir Bruce, were jests—a joking exaggeration of the actual ill-conduct of the board—a pardonable indulgence in a little mischievous hyperbolic amplification of its *admitted* mismanagement—a pleasant trick to frighten us—an agreeable juggle to surprise us—a little condescending mystification! No better omen of your earnest desire to promote the future welfare of the project could be given us, than Mr. Colombine's expulsion from the solicitorship of the board. It was 'a consummation devoutly to be wished;' and if it had happened at an earlier period of the Company's existence, its salvation would have been certain.

What is the actual amount of cash at the banker's? The residue of the deposits? It will be some satisfaction, Sir Bruce, to know this.

"'Tis the balance in hand gives us cause to expect,
And what I can get I'll never reject."

"I beseech you, Sir Bruce, not to transfer the balance to your successors, at the head of whom is a person whose zeal, I fear, began in hypocrisy, and ended in treachery; from whose dismissal, I think, disgrace is inseparable; and who adds, in my opinion, the genius of malevolence to the disposition of a fiend. Another individual was named to me as entertaining long-seated desires to be put on the committee of management. Nothing should induce me to consent to such appointment; for although he has ample arrogance for a chairman, he has not experience enough for an engine-driver, or honesty sufficient for a porter. As the future is the inheritance of hope, Sir Bruce, so let the present be the age of activity: call your meeting, exhibit to us the actual state of things, get ready the £35,000 you promised to the funds, augment your directory with men of business, increase your committee of management with working talent, show us there is honesty of purpose, and inspire confidence. We are plain men, Sir Bruce, who judge of your intentions by your acts, and not by your professions, and the shareholders will not be unmindful of the difficulties and obstructions you have encountered, nor ungrateful for your zeal and exertions in the protection and advancement of their interests. Never mind the secession of Mr. Colombine. That pillar of light

is already dim and flickering, fast descending into smoke, and those who entered the wilderness with him will shortly discover that his luminous properties are of a very transitory nature. I prefer the safety of honourable slowness to the danger of dishonest despatch, and readily confess that I should prefer renewing my confidence in the integrity of the three graces and the old committee, than reposing it in the keeping of the four gentlemen named at the meeting last Monday. Either choice is, perhaps, a bad one, but of the two evils I select the smaller—the illusions of hope are more agreeable to me than the realities of treachery.

“One more inquiry, Sir Bruce, and I leave you till next week. Is it true that the proprietors of the *Court Gazette* issued twelve writs against the board for a debt of only fifty pounds? I am credibly informed such was the fact. If so, Sir Bruce, I cannot but think there was more of the chivalry of foolish resistance than the valour of wise economy in your management. The shareholders will be jealous; the dispensation of your favours indicates a tenderer sympathy for the lawyers than regard for our interests.

I purpose, Sir Bruce, next week to notice Mr. Colombine's celebrated manifesto to the committee of management, dated the 6th October last. It is a rare sample of ingenious remonstrance, and valuable as a specimen of professional chirography. The sentiments differ from those he professed at his meeting last Monday; there is more asperity and less caution than he is in the habit of observing. His courtesy at his meeting did him great service. There was something so fair about his conduct, so plausible in his manner, such apparent sincerity in his intentions, so much self-denial and christian forbearance, that his most implacable enemy must have been softened, and the most revengeful appeased.

I have the honour to be, Sir Bruce, your very faithful servant,

“S. POTTINGER HARRIS.

“Grove Terrace, St. John's Wood, Feb. 11, 1846.”

MADRAS RAILWAY COMPANY.

(Extract from the Directors' Report.)

AMONG the gentlemen in this country who had formerly been resident at Madras, it was well known to many, that the subject of railway communication, within the territories of that presidency, had attracted much attention for many years. In the year 1830, the first railroad for passengers and locomotive engines in England was opened. In 1832, the idea of forming a railroad from Madras to Arcot and Bangalore was suggested, as one that might in time be realized, and prove a remunerating undertaking. In the year 1836, a report was made to the Madras government, upon the state of the internal communications of that presidency, by Captain A. Cotton, of the engineers; in which he describes, and recommends to government the construction of an extensive system of railroads throughout that presidency. In the year 1837, the Madras government directed a survey of the line from Madras to Wallajahnuggur, within two miles of Arcot, and sixty-five from Madras. This survey was made by Captain Worcester, of the Madras artillery; and the Madras government strongly recommend the execution of the work to be sanctioned by the court of directors in this

country; but financial considerations were an objection to the outlay required.

As soon as it was ascertained, by the publication of the court's minute to the supreme government, that the opinion of the home government of India was favourable to the introduction of railways into that country, and that the execution of them was likely to be intrusted to private enterprise, some of the gentlemen who were acquainted with the great progress which the subject of railroads had made at Madras, and the very complete and accurate information which had been obtained by Captain Worcester's survey of the line from Madras to Wallajah-nuggur, took steps to form a Company, the objects of which should be the introduction of the railway system into the Madras territories, by the construction, in the first instance, of the line from Madras to Wallajah-nuggur and Arcot, with ultimate extension to all parts of the Madras territories, that might be warranted by the success of the first line.

With this object, a provisional committee was formed in June last, consisting of twenty members, a majority of whom had been long resident in Madras, and were well acquainted with the investigations which had been carried on there, on the subject of railroads. They were associated here with gentlemen, whose knowledge of business, and experience in commercial and railway matters in this country, were of the highest value in their deliberations. At the outset of their duties they were met by the question, whether the association they were about to form, came under the operation of the Act of 7 and 8 Victoria, cap. 110, known as the Joint Stock Act; and although contradictory opinions have been given upon the subject by eminent lawyers, the committee (acting upon the best advice they could obtain), believing that it did, felt themselves bound to follow the provisions of that Act, and, accordingly, had the Company provisionally registered.

If the sole object of the directors of this Company had been to encourage dealing in the shares, and forcing them up to a premium, they would have spared themselves much trouble, and probably have obviated some inconvenience to those parties who have trafficked in the shares of the Company, had they declined to register this Company under the Joint Stock Act, and issued scrip, which would have circulated freely on the Stock Exchange. The object of the promoters of this project, however, was not to bring forward a scheme that should be merely popular on the Stock Exchange, and serve as a vehicle for the realization of premiums. They felt convinced that the introduction of railways into India was now only a question of time; and they were aware of the fact, that the line they had proposed had been already surveyed, with a view to the construction of a railway upon it. The estimates of the cost of constructing it, and of the traffic returns, were already in their possession; and as soon as this Company could be formed, nothing further remained, but to obtain the sanction of the authorities to enable them to enter upon their operations on the line at once.

WEXFORD, WATERFORD, AND VALENTIA RAILWAY,

To join the Waterford, Limerick, and Cork Railways.

(Provisionally registered, pursuant to 7 and 8 Vict., c. 110.)

CAPITAL, £1,000,000, in 40,000 shares of £25 each.

DEPOSIT, £1 10s. per Share.

PROVISIONAL COMMITTEE.

Sir Robert Fitz-Wigram, Bart., Connaught Place, Hyde Park.
 Walter Hore, Esq., Harperstown, Wexford.
 John Nunn, Esq., Silverspring, Wexford.
 Robert Hughes, Esq., Ely House, Wexford.
 Sir Richard Langrishe, Bart., Knocktopher, Kilkenny.
 Rev. Richard King, Woodville.
 Sir Edward Cholmeley Dering, Bart., Surrenden Dering, Kent.
 R. Keily, Esq., Director of the Royal North of Spain Railway.
 Patrick Trant, Esq., County Magistrate, Waterview, Caherciveen.
 Samuel Handy, Esq., Merchant, New Ross.
 Ambrose Miller, Esq., Merchant, Thames Street.
 Capt. W. Toole, County Magistrate, Curacloe.
 Higgatt Tench, Esq., Ballyhealy, Wexford.
 Charles O'Connell, Esq., Atrada, Caherciveen.
 David Beatty, Esq., Penzance, Wexford.
 W. H. Kellet, Esq., Great Clonard, Wexford.
 Richard M'Gillicuddy, Esq., County Magistrate, Whitefield, Killarney.
 R. Atkins Rogers, Esq., Magistrate, Director of the Cork and Passage
 Railway.
 Henry R. Harvey, Esq., Magistrate, Kyle House, Wexford.
 Richard Clayton Browne Clayton, Esq., Adlington Hall, Wigan, and
 Carrickburn Lodge, Wexford.
 Colonel Wilson, Roseville, Wexford.
 Martin Howlett, Esq., Magistrate, New Ross.
 George Hartrick, Esq., Merchant, New Ross.
 Rev. Henry Helsham, Rosbercorn Glebe, Kilkenny.
 Wm. Campbell, Esq., Great Portland Street.
 Samuel Kough, Esq., Merchant, New Ross.
 John Preston, Esq., Rosbercorn Tower, Kilkenny.
 Rev. G. E. Armstrong, Listerlin Glebe, Kilkenny.
 Edward Rae, Esq., Magistrate, Keel, Milltown.

With power to add to their number.

BANKERS—Messrs. Smith, Payne, and Smiths, London; the Manchester and Liverpool District Bank, Liverpool; the Bank of Ireland, and their branches.

ENGINEER IN CHIEF—William Gravatt, Esq., F.R.S.

ACTING ENGINEER—Robert M'Call, Esq., C.E.

SOLICITORS—John Symons, Esq., 33, Old Jewry, London; —. B. West, Esq., Wexford.

The proposed railway will complete the chain of communication between London and the South and West of Ireland, by route of the Great Western and South Wales Railways to Fishguard, or St. David's Head, from thence to the harbour of Wexford, (being the narrowest part of St. George's Channel,) where the projected railway, uniting the important ports of Wexford, New Ross, and Waterford, will commence, and passing through the towns of Taghmon, Mullinavat, and Carrick-on-Suir, will there join the Waterford, Limerick, and Cork Railways, which have on this portion of their line the towns of Clonmel, Cahir, Cashel, Tipperary, and Kilmallock; and leaving them at Charleville, the Wexford, Waterford, and Valentia Railway will proceed through the towns of Dromcolliher, Newmarket, Castle Island, and Killarney, with a short branch to the important port and county town of Tralee,—it will then pass onwards in the vicinity of Castlemain, Milltown, Killorglin, and Caherciveen, and terminate at the spacious harbour of Valentia.

By the same speed now maintained on the Great Western Railway, the journey from London to Fishguard will be performed in five hours,—the passage thence to Wexford in four,—to Dublin in two,—thus completing the distance to Dublin in eleven hours, and accelerating the English mails, to the interior, thirty hours earlier than by the present arrangements.

The line is on the principle of direct railway communication, the importance of which, acknowledged by the Board of Trade, has been thus powerfully advocated by Sir Robert Peel:—

“He would make no reference to any individual railway schemes, but he thought they ought to look forward to the result of mechanical improvements as applied to these schemes, and they might depend upon it—speaking of ultimate results—that the shortest lines would be preferred. (Hear, hear.) The tendency of the improvements which were almost daily introduced was decidedly in favour of the shortest lines. He (Sir R. Peel) had expressed this opinion in the year 1839. They chose to establish a railroad between Liverpool, Manchester, and London, and it was thought desirable that the line should go round by Birmingham. It was said, ‘Include Birmingham by all means in your line between Liverpool and London: it is useless to take a shorter line through a country much less productive.’ He (Sir Robert Peel) then ventured to predict that the people of Liverpool and of Manchester would not be sent round ten or twelve miles out of the direct line in their journey to the metropolis. In 1845 it was found that the shortest line was best, and that Birmingham ought not to be included in the route; but £70,000 had been expended in testing the merits of the scheme, and, without in any degree undervaluing the legal profession, he must say that so large a sum spent in such a manner was worse than thrown away. Now, in order to save a distance of nine miles from Liverpool and Manchester, this new line, making a cut from Stafford to Rugby, was

about to be established with universal consent. This ought, in his opinion, to be a lesson to the house. He did not wish to refer to any particular line of railway, but, generally speaking, and contemplating ultimate results, he was certain that when they were establishing communications between different parts of this country and between Scotland and Ireland and this metropolis, whatever course they might now take, many years would not elapse before the shortest lines would be preferred."

This line, therefore, adopts the shortest course between Wexford and Waterford, and between Charleville and Valentia.

It will be readily seen, by an inspection of the map, that the whole line, when completed, will greatly facilitate the intercourse between Great Britain, Ireland, and America, as, by means of it, Valentia Harbour, a port of great importance, being brought within 13 hours of London, must become a perfect station, where vessels would avoid the delays of adverse tides and winds in the channel,* and save at least 900 miles of the most difficult part of the voyage to America, which would then be accomplished with ease and regularity (viâ Halifax) in seven days from Valentia, and eight days from London.

Travellers to and from London, the manufacturing districts of England, and the south-west of Ireland, will find "the Wexford, Waterford, and Valentia Railway" to be 200 miles shorter than the route by Holyhead and Dublin; effecting a saving of time and expense so considerable as to leave no doubt whatever that the route indicated will always be the one preferred; and thus the projected line being the principal feeder and connecting link of the South Wales, Waterford, and Limerick, and Cork Railways, may be confidently anticipated to receive the cordial support and co-operation of these Companies.

The proposed railway will also afford a new and convenient opening for the transport and sale of the produce of the country through which it passes, by a safe and expeditious means of transit to every part of the kingdom; and the fact that a great portion of the traffic between London, the West of England, Wales, South and West of Ireland, and ultimately of America, must exclusively flow into this line, as the great highway between these countries, will be at once sufficient to show that the increase of traffic will greatly exceed the ordinary rate of computation, and that the return upon the capital invested will be very ample.

This line will pass through or near twenty towns, having on each side a fertile country, containing a population of two millions and upwards, to the whole of which it will afford railway accommodation. It will

* The steam-ship *Great Liverpool*, on her first voyage to America, was ten days beating about the Irish coast with adverse winds, and consumed her stock of fuel by the time she reached *Valentia*.

NOTE.—Capt. Evans, R. N., having, by order of the government, inspected the several harbours most eligible for packet intercourse between the United Kingdom and America, has decided in favour of Fishguard, Wexford, and Valentia; inasmuch as the packets could arrive and depart from these harbours with ease and regularity, when they could neither make Kingstown nor Waterford. In confirmation of this it may be stated, that during the disastrous gale of the 9th of October last, when several fine vessels with cargoes were wrecked in the harbours of Kingstown and Dublin, the South Bay of Wexford was calm and almost untroubled.

intersect the inexhaustible coal fields of Duhallow (computed by the Railway Commissioners to be the most extensive in the United Kingdom)—the valuable limestone and marble quarries at Dunkit, Pilltown, Mitchelstown, and Killarney—and the lead and copper mines near the latter (all on the line). The slate quarries at Valentia, the finest in the world, have been selected for supplying the roofing to the new Houses of Parliament, and being extensively worked by an English Company, will add to the traffic of the line.

In addition to the income derived from the mineral traffic, a very large source of revenue may be anticipated, from the line considerably cheapening the transit of the staple articles of the Irish export trade, which are raised in large quantities in the districts close to the course of this railway—the daily produce of the fisheries along the west coast, Nymph Bank, Kilmore, and Wexford, and the immense quantity of live stock, corn, butter, and other agricultural produce, immediately available and requiring transmission. Added to which, the numerous and extensive malting houses and flour mills along the line will contribute largely to the traffic, and prove equally beneficial to the country and the shareholders.

The celebrated lakes of Killarney,* not surpassed for grandeur and magnificence of scenery, the military and naval depot of Tarbert, and the extremely salubrious sea-bathing places of Carn, Roslare, and Curra-cloe, in the vicinity of Wexford, will be much more frequented by tourists and invalids, and the favourite resort of thousands annually; and if we add to the above the English, Irish, and American passengers and traffic, the conveyance of the mails and military, &c., the aggregate sources of profit may be expected to exceed that of most other lines.

The whole of the railway is laid out with a view to afford the largest accommodation to the towns near which it passes, is remarkably easy of construction, will not interfere with any demesnes or ornamental property, and, from the surveys which have been made, the line can be completed within the estimate of the engineers.

When it is considered that this railway will form an important portion of a great national project, which must ere long be accomplished,—that of establishing a direct chain of communication between England and America, through South Wales and the South of Ireland, it may reasonably be assumed, that, independently of its present superior local advantages and public utility, it will, in a prospective point of view, secure to itself the largest trade, and prove one of the most remunerative lines as yet proposed in Ireland.

A portion of the shares is reserved for parties locally interested, and the remainder will be allotted to those giving unexceptionable references, and no application will be attended to unless accompanied by a London reference. Powers will be taken in the Act of Parliament to

* The Irish Railway Commissioners, in their report, observed, "Among the inducements which we may notice as holding out a prospect of support of such undertakings, are to be mentioned the numbers from all parts of the United Kingdom, and even the Continent of Europe, who would resort to Ireland, as travellers, to view the natural beauties and splendid scenery of Killarney, &c."

limit the liability of the shareholders to the amount of their shares, and to allow interest at £4 per cent. per annum on the deposits.

Prospectuses, with plans and forms of application for shares, may be obtained from the following stock and share brokers: Messrs. Mullins and Marshall, Lombard-street, and Messrs. Carden and Whitehead, Threadneedle-street, London; Messrs. A. and S. Boulton, and Mr. Thomas Crewsden, Liverpool; Messrs. Boyle, Low, Pym and Co., and Bruce and Symes, Dublin; Mr. Graves, Manchester; Messrs. Hirst and Brooke, and Mr. James Jameson, Leeds; Messrs. Tate and Nash, Bristol; Mr. Samuel Eyre, Derby; Mr. W. Smith, Glasgow; Mr. James Pringle, Edinburgh; Messrs. Hopwood and Palmer, Plymouth; and also of the bankers and solicitors of the Company.

Company's Offices, 33, Old Jewry, London,
22nd April, 1845.

BIRMINGHAM AND MANCHESTER DIRECT RAILWAY.

THIS was a Company brought out under Moorgate Street auspices, but nipped in the bud by the panic.

(PROSPECTUS).

BIRMINGHAM AND MANCHESTER DIRECT RAILWAY.

Provisionally Registered.
Capital, £900,000, in 45,000 Shares of £20 each.
Deposit, £2 2s. per Share.

PROVISIONAL COMMITTEE.

- ¹ Sir George Prescott, Bart.
- ² The Hon. Cecil Lawless, Lynbarth, Kildare, and St. James's Street.
- ³ Sir Love Parry Jones Parry, Major-General, K.H., Madryn, Carnarvonshire, Director of the Leicester, Bedford, and of the Direct East and West Junction Railways.
- ⁴ Sir William Twisden, Bart., Dorset Square, Director of the Chepstow and Forest of Dean Railway.
- ⁵ Sir William Young, Bart., East India Director, Westbourne Street, Hyde Park Gardens, Director of the Sheffield, Nottingham, and London Direct Railway.
- ⁶ Sir William Wynn, K.C.B., Suffolk Street, Pall Mall, Chairman of the North Wales Railway.
Sir Henry Webb, Bart., 105, Pall Mall, Director of the York and Lancaster Railway.

¹ Director of a defunct scheme.

² A director of the Direct London and Exeter, who did not pay on his shares; director of the Great Manchester, Rugby, and Southampton.

³ A director of defunct schemes.

⁴ Ditto.

⁵ A director of the East India Company; director of defunct schemes.

⁶ A director of defunct schemes.

- The Sheriff of York, Director of the Sheffield, Nottingham, and London Direct Railway.
- ⁷ Ayscough, Rear-Admiral, Prospect Place, Southampton, Director of the Sheffield, Nottingham, and London Direct Railway.
 - ⁸ Adair, Major, Director of the Church of England Assurance Society, and of the Burton-upon-Trent, Stafford, Shrewsbury, and Newtown, and Indian Peninsular Railways.
 - ⁹ Arnold, Henry, Esq., Uttoxeter, Director of Remington's Direct London and Manchester Railway.
 - ¹⁰ Booth, John, Esq., Park Cottage, Macclesfield, Director of the Leeds, Huddersfield, and Wolverhampton Direct, and Sheffield, Nottingham, and London Direct Railways.
 - ¹¹ Brooks, John, Esq., Alderman of Manchester, Director of Remington's Direct London and Manchester Railway.
 - ¹² Brown, Henry, Esq., Ashby-de-la-Zouch, Director of Remington's Direct London and Manchester Railway.
Brown, Isaac Baker, 27, Oxford Square, Hyde Park.
Buck, W. C., Esq.
 - ¹³ Cambridge, John, Esq., York Terrace, Regent's Park, Director of the Burton-on-Trent, Stafford, Shrewsbury, and Newtown Railway.
 - ¹⁴ Chambers, Wm., Esq., Cock's Bench, Derby, Director of Remington's Direct London and Manchester Railway.
Chitty, Thomas, Esq., Temple, Director of the Rugby, Warwick, and Worcester Railway.
 - ¹⁵ Clarke, Jeremiah, Esq., Macclesfield, Director of the Derbyshire, Staffordshire, and Worcestershire Junction Railway
 - ¹⁶ Cleobury, Thomas Mortimer, Esq., Acton, Middlesex, Director of the Sheffield, Nottingham, and London Direct Railway.
 - ¹⁷ Cook, John, The Rev., Uttoxeter, Staffordshire, Director of the Sheffield, Nottingham, and London Direct Railway.
 - ¹⁸ Croft, Major J. T., Regent Street, Deputy Chairman, Director of Remington's Direct London and Manchester Railway.
 - ¹⁹ Crossley, John, Esq., Lamberhurst, Sussex, Director of the Sheffield Nottingham, and London Direct Railway.
 - ²⁰ Cumberlege, N. Esq., York Terrace, Regent's Park, Director of the Burton-upon-Trent, Stafford, Shrewsbury, and Newtown, and Derbyshire, Staffordshire, and Worcestershire Junction Railways.

⁷ This scheme is defunct.

⁸ A director of the celebrated Central Sardinian Railway, which has disappeared from its offices; a director of defunct schemes.

⁹ One of the parties connected with the concoction of this and other schemes of the kind.

¹⁰ A director of defunct schemes.

¹¹ Ditto.

¹² Ditto.

¹³ Ditto.

¹⁴ Ditto.

¹⁵ Ditto.

¹⁶ Ditto.

¹⁷ Ditto.

¹⁸ Ditto.

¹⁹ Ditto.

²⁰ Director of a defunct scheme.

- Dalby, J. R. Esq., Ashby-de-la-Zouch.
- ²¹ Dale, Major Thurston, Ashbourne, Director of the Burton-on-Trent, Stafford, Shrewsbury, and Newtown, and Leeds, Huddersfield, and Wolverhampton Direct Railways.
- Daniel, R. Esq., Oakhill, Stoke-upon-Trent, Director of the Leeds, Huddersfield, and Wolverhampton Direct Railway.
- Darlington, John, Esq., Shipley Hall, Bradford, Director of the Liverpool and Leeds, Direct Railway.
- Dewhurst, Richard, Esq., Aspley House, Huddersfield, Director of the West Riding Union Banking Company, and Director of the West Riding Junction Railway.
- Dent, Edward, Esq., Director of the Manchester, Huddersfield, and Great Grimsby Direct Railway.
- Dent, John Esq., Director of the Manchester, Huddersfield, and Great Grimsby Direct Railway.
- Eastwood, Abraham, Esq., Huddersfield, Director of the Leeds, Huddersfield, and Wolverhampton Direct Railway.
- Eastwood, Edmund, Esq., Huddersfield, Director of the Leeds, Huddersfield, and Wolverhampton Direct Railway.
- ²² Ellis, John, Esq., Temple.
- ²³ Ewart, Francis, of 4, Brick Court, Temple, Director of the Great Leeds and London Direct, Exeter, Dorchester, and Weymouth, Metropolitan Junction Railways.
- Fisher, Thomas, Esq., Ripon, Director of the Liverpool and Leeds Direct Railway.
- ²⁴ Fitch, George, Lieutenant-Colonel, 36, York Terrace, London, Director of the London and Lancaster Railway.
- Franklin, Benjamin, Harley Street, London.
- Garde, Richard, Esq., 16, Stephen's Green, Dublin.
- Gisborne, Henry Francis, Esq., Derby, Director of the Burton-on-Trent, Stafford, Shrewsbury, and Newtown Railway.
- Grant, Daniel, Esq., Manchester, Director of Remington's Direct London and Manchester Railway.
- Hammond, George, Esq., Director of the Liverpool and Leeds Direct Railway.
- Harrison, John, Esq., Banker, Ripon, Director of the Leeds, Huddersfield, and Wolverhampton Direct Railway.
- ²⁵ Heneage, C., Esq., Pall Mall, Cadeley Place, Lincolnshire, Director of the Brighton and Cheltenham Railway.
- Herries, Robert, Esq., Director of the Liverpool and Leeds Direct Railway.
- Hind, Abraham, Esq., Director of the Manchester, Huddersfield, and Great Grimsby Direct Railway.
- Holdforth, J. D., Esq., Director of the Liverpool and Leeds Direct Railway.

²¹ Director of a defunct scheme.

²² Late M.P. for Newry.

²³ A director of defunct schemes.

²⁴ Ditto.

²⁵ Ditto.

- ²⁶ Hughes, Hughes, W., Esq., Alderman of the City of London.
Ingleby, Joseph, Esq., Cheadle, Director of the Leeds, Huddersfield, and Wolverhampton Direct Railway.
- ²⁷ Johnson, Richard William, Esq., Moorgate, Director of the Brighton and Cheltenham and Remington's Direct London and Manchester Railways.
Jones, Edward, Esq., Windmill Place, Camberwell, Director of the Leeds, Huddersfield, and Wolverhampton Direct Railway.
- ²⁸ Jones, the Rev. J. P., Vicarage, Alton, Director of the Derbyshire, Staffordshire, and Worcestershire Junction Railway.
- ²⁹ Keene, John Joseph, Esq., St. John's Wood, Regent's Park, Director of the Burton-on-Trent, Stafford, Shrewsbury, and Newtown Railways.
- ³⁰ King, William, Esq., Stepney, Director of the Derbyshire, Staffordshire, and Worcester Junction, and Brighton and Cheltenham Railways.
Knight, Edward, M.D., Stafford, Director of the Burton-on-Trent, Stafford, Shrewsbury, and Newtown Railway.
Lambert, Richard, Esq., Lyston Hall, Sudbury.
Lea, John Wheeley, Esq., Worcester.
Mackenzie, T., Esq., Duke Street, Liverpool.
- ³¹ McCann, Nicholas, Esq., 50, Parliament Street.
- ³² M'Mahon, Daniel, Esq., Wolverhampton, Director of the Derbyshire, Staffordshire, and Worcestershire Junction Railway.
Mainwaring, John, Esq., Eagle Hall, Pateley Bridge, Director of the York and Lancaster Railway.
Mann, T., Esq., Chapel Cottage, Holloway.
- ³³ Maskery, Thomas, Esq., Norbury Hall, Director of the Brighton and Cheltenham Railway.
- ³⁴ Meteyard, Horace W., Esq., Director of Remington's Direct London and Manchester Railway.
- ³⁵ Moore, Major, Anne Street, Cavendish Square, Director of the Burton-on-Trent, Stafford, Shrewsbury, and Newtown Railway.
- ³⁶ Murray, James T., Esq., George Street, Hanover Square, Director of the Burton-upon-Trent, Stafford, Shrewsbury, and Newtown Railway.
Musgrave, S., Esq.
Nadin, Joseph, Esq., Stapenhill, Director of Remington's Direct London and Manchester Railway.
Nadin, Nathaniel, Esq., Stapenhill, Derbyshire, Director of Remington's Direct London and Manchester Railway.

²⁶ A celebrated Alderman of London; director of above a score defunct schemes.

²⁷ A director of defunct scheme.

²⁸ A director of several defunct schemes; a clergyman.

²⁹ A director of various defunct schemes.

³⁰ A director of several defunct schemes.

³¹ The surgeon in Parliament-street; director in several defunct schemes.

³² A director of defunct railway schemes.

³³ Ditto.

³⁴ A director of defunct railway schemes.

³⁵ A director of defunct schemes.

³⁶ Ditto.

- Norton, Joseph, Esq., Huddersfield Director of the Nottingham and London Direct Railway.
- 37 Ogle, Nathaniel, Esq., Heath Lane Lodge, Twickenham, Director of the Burton-upon-Trent, Stafford, Shrewsbury, and Newtown Railway.
- 38 Pulteney, Captain Douglas Kinnaird, 4, Parliament Street, Chairman of the York and Lancaster Railway, and Director of the Derbyshire, Staffordshire, and Worcestershire-Junction Railway.
Richardson, Joseph, Esq.
Riddle, Robert Andrew, Esq., 23, Bryanstone Street, Portman Square, Director of the Tring, Reading, and Basingstoke, and of the Oxford, and Worcester Extension Railway.
- 39 Robinson, John, Esq., Silcoates Cottage, Wakefield, Director of the Leeds, Huddersfield, and Wolverhampton Direct, and Sheffield, Nottingham, and London Direct Railways.
Roden, T. C., Esq., Birmingham, Director of the Leeds, Huddersfield, and Wolverhampton Direct Railway
Shipton, Robert, Esq., Scropton, Derbyshire, Director of Remington's Direct London and Manchester Railway.
- 40 Skidmore, J. A., Esq., St. John's, Wakefield, Director of the Great Leeds and London Direct, and Hull and Holyhead Direct Railways.
Smith, John, Esq., Barton House, Ashbourne, Derbyshire.
- 41 Smith, Thomas, Esq., M.D., Leeds, Director of the Leeds, Huddersfield, and Wolverhampton Direct, and Liverpool and Leeds Direct Railways.
- 42 Smith, William, Esq., Clifton, Derbyshire, Director of the Brighton and Cheltenham Railway.
Sneyd, Thomas, Esq., Belmont.
- 43 Spiers, Edward John, Esq., Carlton Villa, Maida Vale, Director of the Staffordshire, Derbyshire, and Worcestershire Railway.
- 44 Stanhope, Lieutenant-Colonel, Leicester, Chairman of Remington's Direct London and Manchester Railway.
Trapp, Benjamin, Esq., Banker, Bedford, Director of Remington's Direct London and Manchester Railway.
- 45 Tyler, George, Esq., Holloway Place, London, Director of the Brighton and Cheltenham Railway.
Walker, George, Esq., Wootton Park.
Walker, C., Esq., Ellastone.
- 46 Waller, Major James, K.H., St. James's Square, Director of the Leeds, Huddersfield, and Wolverhampton Direct, and Brighton and Cheltenham Railways.

37 A director of numerous defunct schemes.

38 A director of defunct schemes.

39 Ditto.

40 Ditto.

41 Ditto.

42 Ditto.

43 Ditto.

44 Ditto.

45 A director of various defunct schemes.

46 Director of defunct schemes.

- Walters, James, Esq., Bakewell, Director of the Leeds, Huddersfield, and Wolverhampton Direct Railway.
- Warren, Jos. Loxdale, Esq., the Lodge, Market Drayton, Salop.
- Wardle, Henry, Esq., Macclesfield, Director of Remington's London and Manchester Direct Railway.
- Welsh, Robert, Esq., Director of the Manchester, Huddersfield, and Great Grimsby Direct Railway Company.
- Weston, Thomas, Esq., Tean, Director of the Leeds, Huddersfield, Sheffield, and South Staffordshire Railway.
- Wilkinson, J. Esq.
- ⁴⁷ Wright, Thomas, Esq., Merchant, Derby, Director of the Derbyshire, Staffordshire, and Worcestershire Junction Railway.

SOLICITOR—W. Arnold Bainbrigge, Esq.

ENGINEER—George Remington, Esq.

SECRETARY—A. A. Flint, Esq.

BANKERS—Messrs. Rogers, Olding, and Co.

LOCAL AGENT—R. H. Tarleton, Esq., Birmingham.

The title of this line sufficiently and correctly explains the object of the undertaking.

The Birmingham terminus will be placed in communication with all the other railways, having a station in that town, and will be brought as near as practicable to its centre. Proceeding thence in a northerly direction, and on the west side of the Lichfield road, it will pass within a short distance of Sutton Coldfield, and to Lichfield, at the latter of which places there will be a station in communication with the projected Walsall lines.

Thence crossing the Trent Valley, near King's Bromley, it will pursue the course of the Blythe Valley, or by or near to Abbot's Bromley to Leigh, where it will leave the Blythe Valley, and by a short cutting reach the Tean Station on Remington's London and Manchester line at the Junction of the Crewe Branch, or by a Junction with whichever of the projected lines to Manchester may be adopted by Parliament.

The entire length of new line to be made will not exceed thirty-four miles, and the whole will be carried over a most favourable country—two-thirds being a water-level.

Sections of a great portion of the line have been made, and the entire parliamentary survey will be completed by the 9th of October.

This railway will afford a route from Birmingham to Manchester eleven miles shorter than by any existing or projected line. It will also give the best and nearest line between Huddersfield and Birmingham.

It will also furnish a nearer and more direct route from Birmingham to the Potteries than any line made or projected by several miles, assuming any of the projected Pottery lines to have their termini at Colwich, on the Trent Valley, or at Stafford, on the Grand Junction Railway. Thus giving to Manchester, and also the Potteries, the shortest, easiest, and most direct route to Birmingham. It will also give the nearest line between Huddersfield, and Birmingham, and Southampton.

⁴⁷ A director of defunct schemes.

This railway crosses the projected Leeds, and Huddersfield, and Wolverhampton Direct Railway. In the Blythe Valley a station will be placed, and communication effected, so as to afford to Birmingham the shortest route by many miles, with Leeds, Huddersfield, Sheffield, and the northern parts of England. In allotting shares, every legitimate preference will be given to the landowners on the line.

It is obvious that the projected line will afford an ample return to the shareholders.

For prospectuses, shares, and every information, apply to the Solicitors, W. Arnold Bainbrigge, Esq., Uttoxeter; or to the Secretary, at the Offices of the Company, No. 1, Moorgate, London.

BROKERS.—Messrs. B. and M. Boyd, New Bank Buildings; Messrs. Townley and Whitehead, Liverpool; Messrs. Cameron and Co., Liverpool; Mr. Morris Reynolds, Liverpool; Mr. Richard E. Hine, Macclesfield; Mr. James Jamieson, Leeds; Messrs. Wellbeloved and Oastler, Leeds; Mr. Frederick Stamp, Hull; Mr. Richard Baines, Blackburn; Mr. George Clark, Bradford; Mr. William Mason, Bradford; Mr. William Cronhelm, Halifax; Mr. J. W. Paibley, Gainsborough; Messrs. Freeman and Son, Northampton; Messrs. Grayston and Earle, York; Messrs. Kettering and Marshall, Leeds; Mr. Joseph Clark, jun., Southampton; Messrs. Tate and Nash, Bristol; Messrs. Houghland and Leese, Manchester; Messrs. A. Birchall and Co., Manchester; Mr. W. H. Collis, Birmingham; Mr. L. Weatherburn, jun., Huddersfield; Messrs. Everard and Co., Huddersfield; Messrs. Payne and Freer, Leicester; J. N. Balme, Gloucester; Mr. C. Wood, Uttoxeter.

FORM OF APPLICATION FOR SHARES.

TO THE DIRECTORS OF THE BIRMINGHAM AND MANCHESTER DIRECT RAILWAY.

I request you will allot me _____ shares in the above undertaking; and I agree to pay up the deposit of £2 2s. per share, and sign the necessary deeds, when required thereto.

Dated this _____ day of _____, 1845.

Name in full
 Profession or Business
 Place of Residence
 Place of Business
 Name of Referee.

SOUTHERN COUNTIES UNION RAILWAY.

THE history of the Southern Counties Union is like that of most other bubbles, but the long provisional committee is peculiarly worthy of study, as it contains, besides the names of many highly respectable men, the names of numerous stags, and most of the schemes mentioned as constituting the railway qualification of the members, are defunct or in bad odour.

THE SOUTHERN COUNTIES UNION AND BRISTOL, BATH,
AND DOVER DIRECT RAILWAY COMPANY.

Provisionally Registered.

Capital, £1,500,000, in 60,000 Shares of £25 each.

Deposit, £2 12s. 6d.

COMMITTEE OF DIRECTION.

Sir Richard Jenkins, G.C.B., E.I.D., Chairman.

William Hughes Hughes, Esq., F.S.A., F.L.S., Alderman, Deputy
Chairman.

Richard Hopkins Allnatt, Esq., M.D.

William Bradley, Esq.

George Augustus Brown, Esq.

Griffin Curtis Galt, Esq.

George Harrison, Esq.

Frederick Hewitt, Esq.

P. Bennett Lucas, Esq.

Colonel Nicolls.

Thomas S. Richards, Esq.

William Shadbolt, Esq.

PROVISIONAL COMMITTEE.

- ¹ Adair, Major, Pall Mall, Director of the Central Sardinian and the Northern and Southern Connecting Railways.
- Albutt, John, Esq., Leeds.
- Alexander, Abraham, Esq., Lullington House, Leamington, Director of the Birmingham, Oxford, Reading, and Brighton; the Worcester, Warwick, and Rugby; and the Lincolnshire and Eastern Counties Railways.
- Allnatt, John Joseph, Esq., Wallingford, Berks.
- Allnatt, Richard H., Esq., M.D., F.S.A., Parliament Street, Whitehall.
- ² Bacon, General, Rusham House, Egham, Director of the Royal Portuguese Railways Company.
- ³ Banks, John Byng, Esq., Stockwell, Director of the Great Leeds and London Direct; the Cheltenham, Oxford, and Brighton; and the Cumberland Union Railways.
- ⁴ Beckett, Edward, Esq., Great Ormond Street, Director of the Enfield, Edmonton, and Eastern Counties Junction Railway.

¹ Director of the Central Sardinian Railway; the concoctors of this scheme have disappeared from their offices, leaving the debts unpaid. The other scheme is also defunct.

² Was one of the promoters of the Great Madrid and Lisbon Railway, the first at five shillings a share, of which the directors were General Bacon, T. S. Duncombe, Esq., M.P. for Finsbury, the Duke de Guiche, the Earl of Uxbridge, and two other gentlemen. What has become of the Great Madrid and Lisbon is not known, but it is supposed to be merged in the title of the Royal Portuguese Railway, a scheme which was never brought before the public. General Bacon was the managing director in Lisbon.

³ The Companies named here are defunct.

⁴ Nothing is known as to the schemes named here.

- ⁵ Bettridge, Abraham, Esq., Devonshire Terrace, Director of the Great Grimsby, Louth, Horncastle, Lincoln, and Midland Junction; and the Metropolitan Railways Junction Railways, &c.
 Beamish, Samuel George, Esq., Kensington Square.
 Beaumont, William, Esq., Crawshaw House, Pudsey, Director of the West Yorkshire, Midland, and Thirsk Junction, &c., &c.
 Bell, Robert, Esq., Elmwood House, Leeds.
 Bell, Jacob, Esq., Langham Place.
 Black, Wm. F., Esq., Wilton Place, Director of the South and Midland Junction, and the Metropolitan Railways Junction Railways.
- ⁶ Bloor, John, Esq., Tutbury, Director of the Great Manchester, Rugby, and Southampton; the Shropshire Mineral; the London and Holyhead Direct; the Liverpool and Derby Direct; the London and Liverpool Direct; and the Derby and Gainsborough Railways, &c.
 Bowes, John, Esq., Hull, Director of the Rugby, Leamington, and Warwick Railway.
 Bowker, Captain John Harrison, R.N., Newcastle-on-Tyne.
 Bourne, Robert, Esq., Parliament-street, Whitehall.
 Bousfield, William, Esq., Colebrook Terrace.
- ⁷ Bradley, William, Esq., Manor Oaks, Sheffield, Chairman of the Direct Western Railway.
 Braham, James, Esq., Torquay, Devon.
- ⁸ Brandon, G. I., Esq., Finsbury Square, Director of the Direct Manchester, Leeds, and York; and the Grand Trunk Railways.
 Brook, Joseph, jun., Esq., Huddersfield.
 Brooke, Joseph, jun., Esq., Huddersfield, Director of the Great Northern and Southern Direct Railway.
- ⁹ Brodie, Alford, Esq., Director of the Grand Trunk, and Direct West End and Croydon Railways.
 Broadley, Charles Ralph, Esq., Rochdale.
- ¹⁰ Brown, George Augustus, Esq., 20, Gower Street, Bedford Square, Director of the Callao, Lima, and Pacific Coast Railway.
- ¹¹ Browne, the Hon. Geoffrey, D.L., Wilton Crescent, London, and Castle M'Garrett, Mayo, Director of the Irish West Coast Railway.
- ¹² Bruce, William Downing, Esq., Charles Street, St. James's Square, Director of the Leeds, Liverpool, and Fleetwood; the Birmingham and Buckingham; the Direct Western; the Midland Grand Junction, and the Barbadoes General Railways.
 Burgess, John, Esq., the Boroughreeve of Manchester, Director of the London and Manchester Direct and Independent Railway.
 Burnley, Samuel, Esq., Merchant and Manufacturer, Havercroft House, Batley, near Dewsbury.

⁵ Companies named here defunct.

⁶ All these Companies are defunct under circumstances of public notoriety.

⁷ A director of the Sheffield and Manchester Railway, but engaged in numerous new schemes.

⁸ Defunct schemes.

⁹ Ditto.

¹⁰ The Callao Railway here designated was an hydraulic scheme.

¹¹ The Irish West Coast Railway has disappeared in a miraculous manner.

¹² Mr. Bruce took a very active part in very numerous railway undertakings, all of which are, we believe, defunct.

- Burrow, Thomas Dixon, Esq., Settle, Yorkshire.
 Burrows, Josiah, Esq., Castle House, Gommersall, Director of the Great Leeds and London Direct, and the Liverpool and Leeds Direct.
 Butler, Pierce Somerset, Esq., M.P., Queen Square.
 13 Cadman, Edwin, Esq., Merchant, Sheffield, Director of the Direct Birmingham, Oxford, Reading, and Brighton Railway.
 Carter, Christopher, Esq., Belmont House, Knaresborough.
 Casson, Benjamin, Esq., Hull.
 Cavan, Samuel, Esq., Liverpool.
 Chapman, Robert, Esq., Park Place, Regent's Park, Director of the Great Manchester and Southampton Railway.
 Chaytor, Henry, Esq., Clairvaux Castle, Darlington, Director of the Warwick and Worcester, and the Hull and Holyhead Railways.
 Clarke, Edward, Esq., Temple.
 Clarke, Andrew, Esq., Adelaide Place, London Bridge, and Camberwell, Surrey.
 14 Clarke, Jeremiah, Esq., Macclesfield, Director of the Northern and Southern Connecting; of Remington's London and Manchester; and the Derbyshire, Staffordshire, and Worcester Railways.
 Clarkson, James, Esq., Cheetham Hill, Manchester.
 15 Clift, James, Esq., 30, Bloomsbury Square, Director of the Paris and Strasburg; the Metropolitan Railways Junction; the Southampton, Manchester, and Oxford Railways, &c.
 16 Conyngham, Lord Albert Denison, K.C.H., Director of the Galway and Ennis Grand Junction Railway.
 17 Costello, William Birmingham, Esq., M.D., Wyke House, Brentford, Director of the Direct London and Exeter Railway.
 18 Cremer, William, Esq., Mincing Lane, Director of the Grand Trunk and Northern and Southern Connecting Railways.
 19 Cruttenden, Lieut.-Col., R.A., Director of the Gloucester, Aberystwith, and Central Wales Railway.
 Cunynghame, D. T., Esq., Malshanger, Basingstoke.
 20 Dalrymple, Colonel Campbell, George Street, Westminster, Director of the City and West End Railway.
 Dearden, Thomas Ferrand, Esq., Coroner, Rochdale, Lancashire.
 Dean, Thomas, Esq., Healey House, Dewsbury.
 21 Dewsbury, Robert, Esq., Merchant, Headingley, Leeds, Director of the Leeds, Fleetwood, and Liverpool Railway.
 22 Dixon, John Alcock, Esq., Burnley, Lancashire, Director of the Liverpool and Leeds Direct Railway.

¹³ We do not know what has become of this scheme.

¹⁴ The first of these schemes is defunct; the last is a notorious scheme.

¹⁵ The two latter schemes are defunct.

¹⁶ The Galway and Ennis is one of the schemes the committeemen of which are being sued by the creditors, in the hope of getting their money.—See *Burnard v. Burdett*.

¹⁷ The Direct London and Exeter is one of the Companies, where the committee jobbed in the shares.

¹⁸ Schemes defunct.

¹⁹ This line is in bad odour.

²⁰ Scheme defunct.

²¹ Ditto.

²² Ditto.

- Dixon, William, Esq., Howley Mills, Morley, near Leeds.
- ²³ Dowglass, Thomas, Esq., Marlborough Place, St. John's Wood, Director of the Liverpool and Leeds Direct, and of the Manchester and Birkenhead Continuation Railways.
- Douglass, Samuel, Esq., Doctors' Commons, Director of the Grand Junction, Great Western, and South Western Railway.
- ²⁴ Dodd, Charles Roger, Esq., North Brixton, Director of the Great Welsh Central Railway.
- ²⁵ Dransfield, Richard, Esq., Dalton, Huddersfield, Director of the Liverpool and Leeds Direct; of the Manchester, Huddersfield, and Great Grimsby; the Rugby, Derby, and Manchester; the Great Northern and Southern Direct; the Keighley, Halifax, and Huddersfield Railways.
- Dransfield, Joe, Esq., Rookery Mills, near Huddersfield.
- Driffield, William, Esq., Bond House, Knaresborough, Director of the Liverpool and Leeds Direct; the East and West Yorkshire; and the Leeds and Thirsk Railways.
- Dunboyne, Lord.
- Dutton, Thomas, Esq., Blackburn, Director of the Liverpool and Leeds Direct; and of the Blackburn, Chorley, and Liverpool Railways.
- Eccles, William, Esq., Old Broad Street, Director of the Great Grimsby, Louth, Horncastle, Lincoln, and Midland Junction Railway.
- ²⁶ Edens, Joel, Esq., Northampton, Director of the Sheffield, Nottingham, and London Direct; the Liverpool and Derby Direct; the Direct Northern, Eastern, and Western Junction; and the Midland and Eastern Counties Railways, &c.
- Emsley, Thomas, Esq., Rodley, Leeds, Director of the North and East Riding Junction.
- Emmet, John, Esq., Ovenden Grange, Halifax, Director of the Halifax Fire and Life Insurance Company.
- Eyre, Sir James, Brook Street, Grosvenor Square, Director of the Portsmouth Direct Railway.
- ²⁸ Fawcett, Edmund Alderson, Esq., Huggin Lane and Nottingham, &c., Director of the Direct Liverpool and Derby; the Direct West End and Croydon; and the Middlesex and Surrey Junction Railways.
- Fenton, Joseph Thompson, Esq., Chesterfield.
- Fearnley, George, Esq., M.D., Grove House, Dewsbury.
- Fieldhouse, William, Esq., St. Mark's Place, Leeds.
- ²⁹ Fitch, Lieut.-Col., York Terrace, Regent's Park, Director of the York and Lancaster; and of the Oxford, Worcester, and Chester Junction Railways.

²³ Was chairman of the Direct London and Exeter Railway, and a member of the committee of management; received an allotment there of 1000 shares.

²⁴ This line is in bad odour.

²⁵ Most of these schemes are defunct under unfavourable circumstances.

²⁶ Most of these schemes are defunct.

²⁸ Ditto.

²⁹ Largely engaged in Spanish Railways.

- ³⁰ Fitzgerald, Major David, Valentia, Ireland, Director of the Sheffield, Nottingham, and London Direct Railway.
Freke, the Hon. Percy Evans, 3, Belgrave Square, Director of the Direct Western Railway, &c.
- ³¹ Fynn, Robert, Esq., Temple, Director of the Cheltenham, Oxford, and Brighton Junction Railway, &c.
Galt, Griffin Curtis, Esq., Charles Street, Manchester Square, Director of the Armagh, Coleraine, and Portrush; and the Sligo and Shannon Railways.
Gambier, Capt. M., Upper Seymour Street, Portman Square.
Garrard, John Jervis, Esq., Queen Square, Bristol.
Garlic, Samuel, Esq., Park Square, Leeds.
Gaubert, Edward, Esq., Park Villa, Richmond, Director of the Rugby, Swindon, and Weymouth Railway.
George, Wm. Henry Samwell, Esq., Weymouth.
Geddes, Richard, Esq., Newcastle upon-Tyne.
Giles, Samuel, Esq., merchant, Manchester, Director of the Manchester and Rugby Direct, and Sheffield and Macclesfield Direct Railways, &c.
Gillham, Joseph, Esq., Hargreaves House, Oldham, Director of the Staffordshire Potteries, the Birkenhead and Holyhead Junction, and the Manchester and Southampton Railways.
Gloyne, Thomas Hadfield, Esq., Prospect House, Dewsbury.
Goddard, Frederick, Esq., Bath.
Goren, James, Esq., the Priory, Battersea.
Godfrey, J., Esq., Liverpool.
- ³² Greville, Algernon W. B., Esq., Cambridge Terrace, Hyde Park, Director of the Manchester and Birkenhead Continuation Railway.
- ³³ Graham, Joseph, Esq., Clapham, Director of the Northern and Southern Connecting Railway.
Griffiths, James Olliff, Esq., Temple, and Aylesbury.
Grant, John, Esq., Northampton.
Greaves, Edward, Esq., Leeds.
Gummersall, David, Esq., Stanningley Mills.
Gwyer, Edmund, Esq., Bristol.
Halcomb, William, Esq., Marlborough, Wilts, and Dorset Banking Company.
Haley, John, Esq., Stanningley.
Hamilton, F. W., Esq., Gloucester Place, Portman Square, Director of the York and Lancaster Railway.
- ³⁴ Hare, Sir John, F.S.A., 11, Langham Place, Director of the Liverpool and Leeds Direct, of the Manchester and Rugby Direct Railways &c.
- ³⁵ Harrison, Charles Henry Rogers, Esq., Upper Montague Street,

³⁰ This scheme is defunct.

³¹ Ditto.

³² Bath King at Arms. The railway mentioned is defunct in bad odour.

³³ The scheme mentioned is defunct.

³⁴ Director of the Rugby and Manchester Southern Counties Union, and numerous other defunct schemes.

³⁵ These schemes are defunct.

- Montague Square, Director of the Grand Trunk, and the Direct West End and Croydon Railways.
- ³⁶ Harrison, George, Esq., Director of the Grand Trunk Railway.
- ³⁷ Hauston, George A., Esq., Paisley.
- Haymes, A., Esq., Methuen Villa, Leamington, Director of the South Midland and Lincolnshire and Eastern Counties.
- Hazlerigg, G., Esq., West Carlton Hall, Leicestershire.
- Hewitt, Frederic, Esq., Clapham, Director of the Erewash Valley Extension, of the Leek and Mansfield, and of the Birkenhead, Chester, Mold, Rhuabon, and Vale of Llangollen Railways.
- ³⁸ Hewitt, Thomas Frederick, Esq., Hull, Director of the Hull and Holyhead Railway.
- ³⁹ Hodges, Capt. Trophimus, Connaught Terrace, Director of the Manchester and Rugby Direct Railway, &c.
- Hodgson, John, Esq., Sunderland House, Halifax, Director of the Manchester, Southampton, and Oxford Junction Railway.
- ⁴⁰ Holmes, Thomas, Esq., Hull.
- ⁴⁰ Holmes, G., Esq., Hull.
- ⁴⁰ Holmes, John, Esq., Hull.
- ⁴¹ Hughes, William Hughes, Esq., F.S.A., F.L.S., &c., Alderman of London; Chairman of the Leek and Mansfield; of the Erewash Valley; of the Great Western, Southern, and Eastern; and of the Birkenhead, Chester, and Mold, Rhuabon, and Vale of Llangollen Railways.
- Hume, Wm. Fitzwilliam, Esq., Hume Wood, Wicklow, Deputy Lieutenant, J. P., and High Sheriff of the County of Wicklow.
- Hunter, William, Esq., Clarendon Square, Leamington.
- ⁴² Irvine, Rev. G. M. d'Arcy, LL.D., Redcliffe Parade, Bristol.
- Irwin, Edward, Esq., Rathbone House, Kildare.
- ⁴² Isaacson, Rev. Stephen, M.A., Berners Street, Director of the Cheltenham, Oxford, and Brighton; the Cambridge and Lincoln Extension; the Hull and Holyhead; and the Leeds, Fleetwood, and Liverpool Railways.
- Ive, William James, Esq., Northampton Square, Director of the Rugby, Swindon, and Weymouth Railway.
- Jackson, William Thomas, Esq., Tadcaster, Director of the East and West Yorkshire, and Liverpool and Leeds Direct Railways.
- ⁴³ Jameson, John, Esq., Brixton, Director of the Great Leeds and London Direct; the Cheltenham, Oxford, and Brighton; and the Cumberland Union Railways.
- Jenkins, Sir Richard, G.C.B., East India House, Director of the East India Company, and Dendre Valley Railway.

³⁶ Scheme defunct.

³⁷ Not known.

³⁸ This scheme is defunct.

³⁹ Scheme defunct.

⁴⁰ Not known.

⁴⁰ Ditto.

⁴⁰ Ditto.

⁴¹ An alderman of London; director of above a score defunct schemes.

⁴² A director of numerous defunct schemes.

⁴³ Ditto.

⁴³ Defunct schemes.

- ⁴⁴ Jerdein, John Inglis, Esq., 150, Piccadilly, Director of the Great Manchester, Rugby, and Southampton; and the West Midland, Manchester, and Southampton Railways.
- ⁴⁵ Jervis, Swynfen, Esq., Whitehall Place.
Johnson, Daniel Turton, Esq., Aldermary Churchyard, Director of the Northern and Southern Connecting; of Remington's London and Manchester; of the Chester and Manchester Direct; and of the Derbyshire, Staffordshire, and Worcester Railways.
- Johnson, Cuthbert, Esq., Avenue Road, Regent's Park.
- ⁴⁶ Jones, George, Esq., M.R.S., F.S.V., 13, George Street, Hanover Square, Director of the London and Windsor Railway.
- Jubb, Joseph, sen., Esq., Batley Mills, near Dewsbury, Director of the Midland, Barnsley, Sheffield, and Leeds Railway, &c., &c.
- Kaye, Jere, Esq., Huddersfield, Director of the Great Northern and Southern Direct, and the Manchester, Huddersfield, and Great Grimsby Railways.
- ⁴⁷ Keene, John Joseph, Esq., St. John's Wood, Chairman of the Cork and Fermoy Direct; and Deputy Chairman of the Leeds and Huddersfield Railways, &c.
- Kidley, Thomas, Esq., M.D., Sheffield, Director of the Direct Birmingham, Oxford, Reading, and Brighton Railway, &c.
- King, William, Esq., Director of the London and Manchester Direct Line (Remington's).
- King, John, Esq., Grove Road, St. John's Wood, Director of the Somersetshire Midland Railway, &c.
- Kitchen, James, Esq., Burmanstofts, Leeds.
- ⁴⁸ Knight, Valentine, Esq., Cornwall Terrace, Director of the Great Western, Southern and Eastern Counties; and the Dendre Valley Railways.
- Knowles, Stephen Hartley, Esq., merchant, Ten Lands, Gomersall, near Leeds.
- Knowles, Lionel William, Esq., merchant, West House, Gomersall, near Leeds.
- Laishley, George, Esq., Southampton.
- Lambert, Joseph, Esq., Leeds, Director of the Leeds and York; and the Direct Liverpool and Leeds Railways.
- Lawrence, John, Esq., Town Knawl Cottage, Ossett, near Wakefield.
- ⁴⁹ Lawton, George, Esq., Ditchley's Hall, Brentwood, Essex, Director of the South Midland, and of the Great Western, Southern, and Eastern Counties Railway.

⁴⁴ These schemes, and some others of which Mr. Jerdein is a director, are defunct.

⁴⁵ A director of the Moorgate Street schemes.

⁴⁶ 13, George Street, is the British and Foreign Institute. What the initials mean is not known. Mr. George Jones has been connected with defunct schemes, also in the capacity of chairman of the opposition in the Metropolitan Junction Railway, where he has gained much interest. Is a director of the London and County Investment Association.

⁴⁷ The Cork and Fermoy is defunct.

⁴⁸ A director of several defunct schemes.

⁴⁹ Largely engaged in new Companies, and a director of numerous lines.

- ⁵⁰ Lee, F. Valentine, Esq., Chester Place, Director of the Eastern Counties Railway.
Lee, Stephen Henry, Esq., Dalston, Director of the City of London Life Assurance Society, &c.
Levitt, John, Esq., Hull.
- ⁵¹ Ley, James Peard, Esq., Seaton Iron Works, Whitehaven, Director of the Hull and Holyhead Railway.
- ⁵¹ Ley, Arthur, Esq., Bideford, Devonshire, Director of the Hull and Holyhead Railway.
Lodge, Henry, Esq., Sheffield.
Long, Wm. A., Jun., Esq., Kingswood, Wotton-under-Edge.
Lowenthal, Julius, Esq., Huddersfield, Director of the Huddersfield, Manchester, and Great Grimsby Direct Railway.
- ⁵² Lloyd, John, Esq., Stoke Newington.
- ⁵² Lucas, P. Bennett, Esq., Manchester Street, Manchester Square, Director of the Leeds and London Direct; the Sligo and Shannon; the Ipswich and Southampton; and the Cork, Passage, and Kinsale Railways.
Maberly, George, Esq., Welbeck Street, Cavendish Square.
Macalister, Lieut.-Col., K.H., Loupe Cottage, Axminster, Magistrate of the County, Director of the Yeovil, Exeter, and Dorchester; and the Dartmouth, Torbay, and Exeter Railways.
- ⁵³ Mann, John B., Esq., Leeds, Director of the Great Leeds and London; the Hull, Sheffield, and Midland; and the Direct Birmingham, Leicester, and Boston Railways.
- ⁵⁴ McCann, N., Esq., Parliament Street, Director of the Liverpool and Derby; the Direct Manchester and Rugby; the Sheffield and Nottingham; the Brighton and Cheltenham; and the Burton-on-Trent Railways.
- ⁵⁵ McGuire, Wm. J., Esq., Hampton Court, Director of the Direct Western; and of the Direct Birmingham, Oxford, Reading, and Brighton Railways.
- ⁵⁶ McMahan, J. H., Esq., Limerick, Director of the Cheltenham, Oxford, and Brighton Junction; and the Galway and Ennis Grand Junction Railways.
Mandeville, Viscount, Mount Street, Grosvenor Square.
Marsland, Frederick, Esq., Birch Hall, Manchester, Director of the Hull, Great Grimsby, and Southampton; and the Manchester, Huddersfield, and Great Grimsby Railways.
Marjoribanks, Alexander, Esq., of Marjoribanks, N.B.
- ⁵⁷ Meteyard, Horace William, Esq., Director of the Northern and Southern Connecting; of Remington's London and Manchester;

A barrister; was in the opposition of the Eastern Counties Railway, and was elected by the directors into the board. Took a considerable part in new schemes.

⁵¹ This scheme is defunct.

⁵¹ Ditto.

⁵² A director of these and other defunct schemes.

⁵³ Ditto.

⁵³ Most of these schemes are defunct.

⁵⁴ Ditto.

⁵⁵ These schemes are defunct.

⁵⁶ Both these schemes expired under circumstances of public notoriety.

⁵⁷ A director and promoter of these and of various new railways.

- the Chester and Manchester Direct; and the Derbyshire, Staffordshire, and Worcestershire Railways.
- Middleton, William, Esq., Manchester.
- Middleton, Robert, Esq., Manchester.
- Mien, William, Esq., Chappeltown, near Leeds.
- Miller, John Esq., St. John's Wood Grove.
- Mitchell, George, Esq., Sandbed House, Ossett, near Wakefield, Director of the Wakefield, Ossett, and Dewsbury Railway; also of the Midland, Barnsley, Sheffield, and Leeds Railway.
- Mitchell, Frank, Esq., Ryecroft Cottage, near Ossett.
- ⁵⁸ Moore, Ambrose, Esq., Milk Street, Cheapside.
- Muschamp, William, Esq., Sunderland.
- Newbury, Francis, Esq., Kingston Villa, Clifton.
- Newcome, Henry, Esq., Hardington, Northampton.
- Newsome, George, Esq., Cross Banka, Batley, near Dewsbury.
- ⁵⁹ Newton, Capt. T. C., Luguardine, Herefordshire, Director of the Leeds, Fleetwood, and Liverpool, the Hereford and Merthyr Tydvil, the Hull and Holyhead Direct, and the Grand London and Dublin Approximation Railways.
- ⁶⁰ Nicholson, William, Esq., Manchester, Director of the Rugby and Manchester, *via* Macclesfield Railway.
- Nicolls, Colonel, Shopter's Hill, Director of the Armagh, Coleraine, and Portrush, and the Sligo and Shannon Railways.
- Northcote, George Barons, Esq., Somerset Court, Somersetshire, Director of the Somersetshire Midland Railway.
- Oates, George William, Esq., Carr House, Meanwood, near Leeds.
- Oates, Joseph Henry, jun., Esq., Meanwood, near Leeds.
- Ogden, James, Esq., M.D., Salford, Director of the Manchester and Chester Direct Railway.
- Oliveira, Benjamin, Esq., Upper Hyde Park Street, Director of the Liverpool, Manchester, and Newcastle Junction; the Chester and Manchester Direct; and the West Midland, Manchester and Southampton Railways.
- O'Moore, The, Cloghren Castle, Banagher, Deputy-Lieutenant and High Sheriff the County of Roscommon.
- Ostler, John, Esq., Hull.
- Parker, Alfred, Esq., Park Road, Regent's Park.
- Parke, Henry, Esq., Ferriby, near Hull.
- Passenger, Robert, Esq., Union Street, Borough, Director of the Callao, Lima, and Pacific Coast Railway, and the Royal Mines of Cobré Association.
- Pawson, John, Esq., Chappeltown, near Leeds.
- ⁶¹ Pierpoint, Matthew, Esq., Worcester, Director of the Rugby, Derby, and Manchester Railway.

⁵⁸ A director of various defunct schemes, but in which he paid upon his share and took every means of winding them up honourably.

⁵⁹ Most of these schemes have died under unenviable circumstances. Captain Newton is also described elsewhere as of Bruton-street, Berkeley-square, director of the Isle of Man, and the Hull, Birmingham, and Swansea Railway.

⁶⁰ The line with nine miles of tunnel out of thirty-five.

⁶¹ Chairman of the Finance Committee of this celebrated line, which was given up on account of its including nine miles of tunnel out of thirty-five, and being

- Polhill, Richard Cowley, Esq., North Terrace, Brompton, Middlesex, Director of the Thames Valley and Hounslow Railway, &c.
- Power, Richard, Esq., Euston Square, and Long Orchard, Tipperary.
- Preston, C., Esq., Hereford Road, Bayswater, and Blackmore, Essex.
- Priest, Wm., Esq., Hull, Director of the York and Hull, and the East and West Yorkshire Junction Railways.
- ⁶² Ramsden, Frederick, Esq., Seymour House, Old Trafford, Manchester, Director of the Birkenhead and Holyhead Junction, the London and Holyhead Direct, and the Sheffield and Macclesfield Railways, &c.
- Rayner, Wm., Esq., Upper Stamford Street.
- ⁶³ Rich, Sir George, Lowndes Square, Belgrave Square, Director of the Reading, Guildford, and Reigate, and the Callao, Lima, and Pacific Coast Railways.
- Richards, T. S., Esq., Baker Street, Portman Square, Director of the Great Western, Southern and Eastern Counties, and the Leek and Mansfield Railways, &c.
- Robinson, George, Esq., Hull.
- Robertson, James, Esq., Director of the Worcester, Warwick, Rugby, and Leominster Railway.
- Rogers, Thomas, Esq., Bradford, Director of the Liverpool and Leeds Direct, and the Liverpool and Derby Railway.
- Saunders, Samuel Deshayes, Esq., Ivy Cottage, Sycombe Hill, Bath.
- Scard, Edward, Esq., Kew, Magistrate of Middlesex, and Director of the Northern and Southern Connecting Railway.
- Shadbolt, William, Esq., Croom's Hill, Greenwich, Chairman of the London and Greenwich, and Director of the Dendre Valley Railways.
- Shaw, Charles, Esq., Birmingham, Deputy Chairman of the Direct Birmingham and Leicester, and Director of the Bristol and Birmingham Railways,
- Shaw, James, Esq., Salford, Manchester, Director of the Manchester, Liverpool, and Great North of England; of the Newcastle, Durham, and Lancashire; and of the Bolton and Bury Railways.
- ⁶⁴ Shaw, William, Esq., Director of the Royal Farmers' Insurance Company, and the Warwick and Worcester Railway.
- Shaw, Thomas, Esq., Northampton, Director of the South Midland, and the Great Western, Southern, and Eastern Counties Railways.
- Shaw, Joseph, Esq., York Place, Huddersfield, Director of the Manchester and Birkenhead Continuation, and the Keighley, Halifax, and Huddersfield Railways.
- Sheard, John, Esq., Bonfire Cottage, near Dewsbury.
- Shuttleworth, John B., Esq., Harley Place, Harley Street.
- Simpson, George, Esq., Bedford Square, Director of the Sligo, Donegal, Tyrone, and Belfast Junction, and Middlesex and Surrey Junction Railways.

utterly impracticable. Although £84,000 was raised, many of the creditors of the Company are unpaid.

⁶² Most of these schemes are defunct.

⁶³ A director of various defunct schemes.

⁶⁴ A director of these and other defunct lines.

- Skrine, Julian, Esq., Linsfield House, Cambridge, Director of the Cambridge and Lincoln, and the Northern and Southern Connecting Railways.
- Sloane, W., Esq., Wimpole Street, Cavendish Square.
- Smith, George Thomas, Esq., Leamington.
- Smyth, Henry, Esq., Nottingham, Director of the Grand Union Railway.
- Smerdon, Hugh John, Esq., Christow, Devonshire, Director of the Dartmouth, Torbay, and Exeter Railway.
- Stancomb, John, Esq., Trowbridge, Wilts.
- Standidge, William, jun., Esq., Barkston Ash, near Ferrybridge.
- Starr, Thomas Henry, Esq., M.D., Leamington.
- Steinman, G. Steinman, Esq., Priory Lodge, Peckham.
- Stutely, Martin, Esq., Cambridge Terrace, Regent's Park, Director of Direct Western and Grand Trunk Railways.
- Sutcliffe, James, Esq., Nowland Hall, near Halifax, Director of the Leeds and Thirsk Railway.
- Taylor, P., Esq., Knaresborough.
- Thornburgh, Rev. Francis, Kingswood, Wilts.
- ⁶⁶ Twyaden, Sir William, Dorset Street, Portman Square.
- ⁶⁷ Uxbridge, the Right Hon. the Earl of, Uxbridge House, Burlington Gardens.
- Waley, Edward, Esq., Portland Place.
- Warburton, Samuel, Esq., Hunslet, near Leeds, Director of the Warwick and Worcester Railway, and of the Wakefield and Harrogate Railway, &c., &c., &c.
- Watson, Walter, Esq., Leamington.
- Watts, George, Esq., Mount Radford, Exeter, Director of the Exeter and Exmouth, the Great Western Extension, and the Direct Exeter, Plymouth, and Devonport Railways.
- West, James Atkinson, Esq., Western Lodge, Durham, Director of the Newcastle, Durham, and Lancashire; the Manchester, Liverpool, and Great North of England; the Sheffield, Buxton, Leek, Potteries, and Crewe; and the Wear Dock Railways, &c.
- Wheeldon, John, Esq., Meopham Bank, Tonbridge, Kent.
- Whitchurch, the Mayor of, Hants.
- Willsher, Benjamin, Esq., Waterloo Place, Pall Mall.
- Wilson, Knowlton, Esq., M.D., Sheffield.
- Wood, Captain James, R.M., Woolwich, Director of the Dublin Approximation Atmospheric Railway.
- Wrigley, John Batley, Esq., Croft House, near Huddersfield, Director of the Manchester, Huddersfield, and Great Grimsby Direct Railway.
- Wynne, Thomas, Esq., Longton, Staffordshire, Director of the South Union and Birmingham Junction, of the Holyhead Direct, and of the Leeds and Carlisle Railways.
- Yearsley, James, Esq., Saville Row, Piccadilly.
- Yearsley, John, Esq., Merchant, Fenchurch Street.

⁶⁶ A director of a defunct scheme.

⁶⁷ A director of the Great Madrid and Lisbon, in conjunction with General Bacon (No. 2), T. S. Duncombe, Esq., M.P. for Finsbury, &c.

BANKERS.

London Joint Stock Bank, 5, Princes Street, Bank, and 69, Pall Mall.
 Basingstoke—Messrs. Cole, Seymour, and Co.
 Bath—The National Provincial Bank of England.
 Birmingham—Messrs. Attwoods, Spooner, and Co.
 Blackburn—The Old Bank; Messrs. Cunliffe, Brooks and Co.
 Bristol—Messrs. Miles, Harford and Co.
 Cheltenham—The National Provincial Bank of England.
 Coventry—The Union Banking Company.
 Devizes—The Wilts and Dorset Banking Company.
 Dewsbury—The West Riding Union Banking Company.
 Edinburgh and Glasgow—The City of Glasgow Bank at Edinburgh.
 Halifax }
 Huddersfield } The Halifax and Huddersfield Union Bank.
 Hull—Messrs. Pease and Liddells.
 Hungerford and Marlborough—Messrs. Tanner and Co.
 Leeds—The Leeds Bank.
 Liverpool—Messrs. Heywood, Son, and Co.
 Manchester—The National Provincial Bank of England.
 Newbury—Messrs. Bunney and Slocock.
 Newcastle-upon-Tyne—The Northumberland and Durham District Bank.
 Reigate—Messrs. Nash and Neale.
 York—Messrs. Swann, Clough, and Co.

ENGINEER IN CHIEF—John Urpeth Rastrick, Esq.

ACTING ENGINEER—Henry Renton, Esq., C.E.

ARCHITECT AND SURVEYOR—Charles Lee, Esq., Golden Square.

PARLIAMENTARY AGENTS—Messrs. MacDougal and Upton, Parliament Street.

SOLICITOR—J. D. Wells, Esq., No. 13, George Street, Mansion House.

SECRETARY—R. H. Gadesden, Esq.

OFFICES—No. 70, King William Street, Mansion House, London.

LOCAL AGENTS.

Basingstoke and Odiham—Messrs. Cole, Lamb, and Brooks.
 Bath—Messrs. Mant and Harvey.
 Bristol—Matthew Perkins, Esq.
 Devizes—John Raikes Bayly, Esq.
 Dorking—Messrs. Hart and Hart.
 Farnham—B. Nichols, Esq.
 Hawkhurst—Messrs. Beecham and Upperton.
 Hungerford and Marlborough—John Halcomb, Esq.
 Melksham—Messrs. Moule and Gore.
 Newbury—Robert Baker, Esq., and Messrs. Bunny and Son.
 Reading—Rupert Clarke, Esq.
 Reigate—W. Burt, Esq.
 Trowbridge—John Brent, Esq.
 Whitchurch, Hants—Thomas Pain, Esq.

SHAREBROKERS.

London—S. H. Ellis, Esq., 17, Throgmorton Street; Messrs. Price and Brown, Change Alley; L. H. Haslewood, Esq., Angel Court, Throgmorton Street; and T. C. Munday, Esq., 17, Royal Exchange.

Bath—R. P. Lemon, Esq.; Thomas Evans, Esq., and J. B. Munday, Esq.
 Birmingham—J. R. Lane, Esq.; W. H. Collia, Esq.
 Blackburn—Thomas Boardman, Esq.; James Senior, Esq.
 Bridgewater—Edward Lilly, Esq.
 Bristol—Messrs. Tate and Nash; Messrs. George Edwards and Son, and
 W. H. Land, Esq.
 Burton-on-Trent—W. Wisby, Esq.
 Cheltenham—Messrs. Hall, Brothers, and Co.
 Coventry—Messrs. Brown and Clarke, and John T. Holland, Esq.
 Dewsbury—John Brooke, Esq.
 Dublin—Messrs. Bruce and Syme.
 Edinburgh—Charles Couper, Esq.
 Exeter—Messrs. H. Beaumont and Co.
 Halifax—F. C. Spencer, Esq., and James Hurry, Esq.
 Huddersfield—Messrs. John Gatliff and Co., and John Butchart, Esq.
 Hull—Messrs. Flint and Tootal; Messrs. Charles Wilkinson and Earle.
 Leamington—T. W. Powell, Esq.
 Leeds—Messrs. Chantrell and Boyes; Messrs. Wellbeloved, Barwick,
 and Co.; Messrs. J. and G. Rhodes; Messrs. Read, Broadbent, and
 Co., and James Jamieson, Esq.
 Leicester—Messrs. Payne and Freer.
 Liverpool—Messrs. Schultz and Carr; Messrs. Davies and Co.; H. W.
 Lucas, Esq., and John Wills, Esq.
 Manchester—Messrs. Houghland and Leese; Messrs. Lynill and Berlyn;
 Messrs. Johnson, Bradley, and Walker; Messrs. O'Neil and Nor-
 worthy; Messrs. Ner Gardiner and Heap, John Duncuft, Esq.
 Newcastle-on-Tyne—Messrs. Kimpster.
 Plymouth—Messrs. Hopwood and Palmer.
 Sheffield—Messrs. Garton and Wright.
 Southampton—Joseph Clark, Jun., Esq.
 Stratford-on-Avon—W. Bolton, Esq.
 Taunton—Richard Ball, Esq.
 Worcester—William Miles, Esq.
 York—Messrs. Grayston and Earle.
 The Share List closed on the 16th October, and no further applications
 can be received.

The objects of the promoters of this Company is to form a direct line
 of railway from Bristol and Bath to Dover; and thus in effect unite, con-
 nect, or reciprocate with all the existing and projected lines of railway
 in the South and South West and West of England, as well also as form
 a complete communication with Ireland and all the Western and Welch
 railways, and most of those in the Northern and great manufacturing
 districts, by which passengers and goods to and from Folkestone and
 Dover, France, and Belgium, may be conveyed without the necessity of
 passing through the metropolis.

The main line to be laid down by the Company will be considerably
 less than one hundred miles, throughout which the strongest encourage-
 ment and support have been manifested towards this railway by the
 landed proprietors, many of whom have determined to invest capital in
 the undertaking, and the engineer's report precludes the apprehension of

Engineering difficulties. The great public utility and commercial advantages of railway communication between the important places and ports which it is now contemplated to unite, will be at once appreciated by reference to a map of the country, and they will be forcibly illustrated by the objects to be attained by the Company.

This line is intended to begin at Bristol by means of the Great Western Railway, and passing through Bath to Bath Hampton, it will skirt the valley of the Avon to Bradford, and thence to Trowbridge. It will then take as straight a direction as can be obtained to Devizes, All Cannings, Pewsey, Burbage, Shalborne, West Woodhay, High Clere, and Overton, on to Basingstoke, where it will unite with the South Western Railway, and thus from the Western Counties the distance will be several miles shorter to the metropolis than by any other existing line. It will then, by means of the South Western Railway, proceed on to near Farnborough (a distance of fourteen miles), whence, leaving Farnham to the south, it will pass onward to Ashe, Guildford, Gomshall, and Dorking, to Reigate, where it will unite with the South Eastern and Dover Railway. (The latter eighteen miles from Guildford to Reigate will, in all probability, be constructed by another Company.)

In its course it will thread its way through the lines of many of the railways already constructed or projected—the junction of which will not only be estimated as a great public convenience, but prove highly advantageous to the several Companies interested, producing an immense traffic, that must stream from Ireland—from our great manufacturing districts in the North—the cloth and corn markets of the West of England—the mineral and coal fields of Wales, and the hop districts in Kent—all of which point to the formation of this railway as a great *desideratum*, as well also as to form a direct communication with France, Belgium, and the Continent generally. The distance to be saved by this railway will exceed thirty miles from Bath (and all the towns north-west) to Dover; while to many of the towns south-west of Bristol, sixty miles or more will be saved by this railway in union with some of the other lines; and the often disagreeable and costly necessity (at present existing) of passing through London, to or from Dover, will be entirely obviated, and manufacturers and merchants in most parts of the country, west and north, or south, will be thus enabled to forward and receive goods direct from and to Dover and Folkestone, avoiding the present inconvenient mode and expense of transference from railway to railway across London.

Any attempt to distinguish the number of passengers proceeding to or from London, or the provinces and the continent, by the South-Eastern and Dover Railway, would be abortive; but the published statements of that Company show that the traffic exceeds £8,000 weekly, and the accounts of arrivals at and departures from Calais, Boulogne, and Ostend, exhibit an astonishing number of persons as passengers to and from England weekly, by Dover and Folkestone, throughout the whole of the year. Yielding to the metropolis one-half of the number as a large proportion, the remaining half will belong to the provinces and Ireland, who will probably prefer to be conveyed from or to their localities without the annoyance of being compelled to pass through London, especially as the saving of distance alone will considerably diminish expenses.

The construction of this line of railway can hardly fail to meet the full approval of the government; as besides its great commercial utility,

the convenience it will afford for the speedy transport of troops from Ireland, or the North, South, or West of England to Dover, in a direct manner, avoiding the present necessity of marching them across London or other towns, after they are once placed in railway carriages, must be greatly appreciated; and where it is expedient that expedition and secrecy should be observed in the removal of troops, the means offered by this Company will greatly assist the authorities in facilitating their objects.

The railways already constructed or projected with which this line of railway will effect a union or communication, and reciprocate advantages, exceed fifty in number (as will be seen by examining any railway map), and all of them must be in direct communication with, and will feed, or be fed by, THE SOUTHERN COUNTIES UNION, AND BRISTOL, BATH, AND DOVER DIRECT RAILWAY; the most important junctions being those leading to this line from the north and the manufacturing districts by Oxford to Dover and Brighton, those from Ireland and North Wales by Cheltenham or Oxford, and this railway to Dover or Brighton, and those from the South and West of England by Salisbury to Dover; thus effecting a continuous and direct intercourse with nearly every part of England, Wales, Scotland, Ireland, and the Continent.

The census returns show that this railway will pass through a country containing a population of upwards of one million, and this number, though large, may be fairly multiplied several times if all the other parts of the kingdom which will benefit by it be considered.

With these facts before them, the promoters have not deemed it necessary to put forth estimates of traffic; the soundness of the project being guaranteed by the truths already given in this brief exposition, and the great objects intended to be compassed by this Company.

DIRECT LONDON AND EXETER RAILWAY.

TO SIR BRUCE CHICHESTER, BART.

“Les personnes faibles ne peuvent être sincères.”—*Roche foucauld.*
 “He is a mushroom baronet.”—*A Shareholder.*

SIR,—A meeting, professed to be of shareholders of the Direct London and Exeter Railway, having been held at the City of London Tavern on the 23rd ult., convened by the Company, at which certain resolutions were passed, purporting to uphold the undertaking, I propose to enter into an examination of them, and then I shall be able to show, not only that they are wholly inoperative, but that they leave the questions at issue between you (the committee) and myself wholly *untouched*, notwithstanding the groundless *recriminations* in which you and that committee have indulged in reference to my character.

Permit me to carry you back to the meeting on the 15th December last. You will find in the report (the only one now before me) given in the *Morning Herald* of the following day, you are there represented (and hundreds can speak to its accuracy) to say:—

“Out of the number of shares, 23,560 were paid up, the amount realised being £32,398. This was the sum received. Now, without

going into detail, he would give them the *items of expenditure*. The *first* was that of preliminary expenses, £4,346 11s. 3d. The next item was that of engineering and surveying, which amounted to £14,050, and the law expenses (that was money out of pocket), paying agents, &c., were £8,791; the advertising expenses were £2,639 19s. 4d.; printing, stationery, &c., £584; travelling expenses, £236; rent, salaries to secretary and clerks, £557; miscellaneous expenses, £186, leaving a *balance of £492.*"

A little further on the report states thus :—

"A Proprietor—What balance do you say is in hand ?

"The Chairman—*There is a balance of £492, and this, with a balance unaccounted for by the finance committee, will give about £1,000.*"

The purport and effect of your report was to depreciate as much as possible the affairs of the Company, in order to prevent any inducement, on the part of the shareholders, to proceed for the deposits paid or break up the Company. At this meeting, questions were asked of the committee as to the amount of shares held by them, to which they severally responded in the affirmative. Yes; all the old committee of management, with your sanction and approval, had qualified *within the preceding week*, and signed the deeds *with falsified dates*; and you had taken up an additional number of shares, in order to appear at that meeting. As it will be necessary to refer to the accounts as I proceed, I have subjoined them severally in the Appendix.

That marked A corresponds with the statement at the meeting on the 15th of December. Now, as to the very first item of "*preliminary expenses, £4,346 11s. 3d.,*" *very precisely stated*, the particulars of which I have been only able to collect since the 21st inst. ("I like to be particular in dates,") this will be found in statement marked B.

Calling your attention to the point, that on this occasion no word or syllable is mentioned of Exchequer bills, the impression conveyed, whether intended or not I leave open to fair discussion, and I put it to the large number of shareholders then assembled, whether it was not certain that *all the money had been paid*, except the balance of £492. RECEIPTS were stated on the one hand; not *claims, some disputed*; and EXPENDITURE on the other.

Individually, I *knew* nothing of Exchequer bills then remaining; and if *I did not, associated as I was* with the Company, how, I ask, should others? To this, however, shareholders then present can speak for themselves, if necessary, hereafter.

Nothing was then said as to loss on buying shares by the former committee or the new committee.

A meeting took place at the instance of other subscribers, at the same place as before, on the 9th of February. You did not think proper (and I think you have stated you were absent on that occasion) to attend, though some of your friends were there.

I only advert to this fact, that an examination of the accounts submitted by you on the 15th of December, took place, at which I stated £812 10s, part of the preliminary expenses charged as paid to me, had never been received by me; that such accounts showed nothing of the transaction relative to a sum of £4,000 which ought to have been received by the committee, but of which, or at the time of the receipt

of which, £1,500 had been improperly allowed as paid out of the funds of the subscribers of the Company. There were also some other questions relative to the accounts, which I will not now advert to. I also stated that on the day after the meeting you had acknowledged to me that you had at the time of the meeting £10,000 in Exchequer bills in your pocket.

In consequence of the general conduct of the committee, I had virtually withdrawn from the office of solicitor on the 27th of December, by the letter of that date, which will be found in the "Exposition," published by me; third edition, page 39. I felt, and maintain my right so to do, that in consequence of my labours in forming the entire Company, and having been instrumental to the shareholders embarking in the matter, that the duty to protect their interests, as far as possible, devolved upon me, and I withdrew, wholly ignorant of the events of the 8th November previous, to which I shall hereafter refer.

I felt that the shareholders had not been fairly treated, and at the meeting of the 9th of February mentioned a most material and dangerous fact, one not to be idly raised, or, being raised, lightly abandoned; a fact only known to me by *accident*, and afterwards confirmed,—that the subscribers' deed and parliamentary contract had been *unduly*—I use mild words—executed, as regards the qualification of certain members of the managing committee; and, though not signed till after the 7th December, that falsified dates, of a long antecedent period, were appended to those signatures.

The effect of this *irregularity* would be that the deeds—for all parliamentary purposes *at least*—were rendered *wholly inoperative*; and had the entire capital required been subscribed, and every landowner on the line favourable to the measure, this act would, *if known*, have *thrown out the bill* in Parliament altogether; and, if not known, how could the witnesses have stated *on their oath* that the *standing orders of the House had been complied with*?

The committee had thus express notice of the charges made:—

1. The non-receipt, by me, of £812 10s. of the first item charged by them.
2. The unexplained and suppressed fact of £1,506 11s. 3d. being paid or allowed out of the £4,000 alleged to stock-jobbing.
3. The *irregularity*, to use the "courtliest phrase," of the parliamentary deeds.
4. The non-registration of two of the most active members of the committee.

Whether or not, in consequence of the resolutions passed on the 9th February, you can explain, and as to which question others may form an opinion, advertisements were issued, to the effect that on the 23rd February a meeting of the shareholders would be held, and that four days prior thereto a statement of the affairs of the Company, *prepared in pursuance of the resolution passed at the general meeting on the 15th December last, would be printed and ready for distribution* at the offices of the Company.

Applications were accordingly made on the 19th February, but the reply was, the accounts were not ready; but, on the 20th, a document was issued, to which I renew your *particular attention*. This is the financial statement promised on the 15th December, required

by the meeting on the 9th February, and produced after an interval of nearly two months, taken to prepare an account of twenty items on the debit, and two on the credit side of the affairs of the Company! It is perhaps asking more than I may be entitled to, to say that you had notice to prepare a more detailed account; but in my pamphlet (a copy of which you held in your hand on the 23rd February, and of the contents of which it is not unreasonable to presume you were previously aware, particularly as a copy was transmitted by me to you immediately after its publication in the beginning of January), it will be found, at p. 42, that I expressed a hope that a *detailed* statement of any amount, say *exceeding fifty pounds*, would be given, *as it ought to be*; after the unfavourable impression created with regard to the affairs of the Company. However, the account, prepared after so long an interval, was published; not a theoretic statement, but a printed document—laid before the world, confirming the promise before made by the Company, that a “*full and fair statement*” should be made of its affairs.

With these observations, I wish you to peruse the document subjoined in the Appendix, marked C.

Had I been a mere shareholder, I should have been at a loss to judge between the two accounts thus put to me on the 15th December and 20th February.

“*Utrum horum mavis accipe,*” might be the motto of the Company, but I should have been unable to make any election. Look on the one and the other. They bear neither affinity nor resemblance.

In such a state of things it was that the memorable meeting of the 23rd February took place—a meeting, Sir Bruce, which you and myself will long have cause to remember.

I proceed next to show how little triumph can arise or defeat be confirmed by clamour!

I challenge a calm, a careful, and deliberate investigation as to facts—the more necessary, involving, as they do, your character, and that of the committee, as well as my own; and, though the latter may appear of little regard to you, to me, and in my narrow sphere of action, it is no less important than that of others.

You bear in mind the four charges above, and how are they met?

1st Charge.—It was stated that as doubts (subsequent to the 15th of December) were entertained as to the agreement with me, on which I had surrendered my right and title and labour in promoting the Company, and that, though the committee had taken the whole matter since the 17th of September out of my hands, it was competent to them to *excuse the payment*.

2nd Charge.—No answer; no statement in the accounts; no explanation in the accounts given either on the 15th of December or those now exhibited—without, indeed, the item 1,075 shares *purchased at par* be supposed to give it.

3rd Charge.—The fact of the deeds being ante-dated, admitted by the declaration of your counsel, Mr. Neale* (I believe it was that gentleman), that it was a *mere breach of standing orders*.

4th Charge.—To this it was answered that Dr. Phillimore and Mr.

* One of the newspaper reports state this to be the reply of Dr. Phillimore.

Chambers had been *registered*—that is to say, that having in my letter of the 9th of January called the attention of *two barristers* to the fact of their non-compliance with the Act 7 and 8 Victoria, c. 110, to which no answer was given me, a tardy and unwilling compliance with its enactments was accorded.

This being the state of the case, as submitted by the Company to the meeting on the 23rd inst., let me beg your attention to the following fact :—

A charge is made, that your secretary had that morning refused Mr. Vallance liberty to inspect the vouchers of the Company, though previously it had been intimated to him he might have access to them. A public charge is made, that the transaction of the 1,075 shares had not been truly stated in your accounts ; and that, instead of its being a transaction belonging exclusively to the former *finance* committee, it was one *with which you, and even your recent colleagues, were intimately associated* ; and, as evidence of this fact, it is charged that a cheque was drawn by you on the bankers of the Company, in the presence of Mr. Chambers, dated the 28th of November last, payable to Sir Henry Pynn, Mr. Evans, and Dr. Blundell (whether the names were in that order or not is immaterial), or £1,506 11s. 3d. ; and it was further charged against the Company, that the account set forth also in the Appendix, marked D, contains a true version of the transaction, unexplained and wholly unaccounted for by you, except so far as the debit for shares may be supposed technically to do so.

The charge as to the £1,506 11s. 3d., was confirmed by me, with the explanation that the precise amount and date of the cheque had only been ascertained by me the day before the meeting.

Peruse the document subjoined, marked D ; you will there find the *supposed* sums of £512 10s., and £315 18s. 9d., balances charged to former committee, and £1,478 2s. 6d., for stock or share-jobbing, make £2,306 11s. 3d., which truly balances, that is, explains the items of £500 and £300 received by that committee, and £1,506 11s. 3d., paid by you to cover their deficiencies. The tabular statement will show this more particularly.

How did you meet the question as to the cheque ?

First, you could not *speak to figures* ; and when the peculiarity and importance of the transaction is brought to your mind, you exclaim “ *If I did it, you (pointing to me) were my adviser at the time.* ”

What could be more pertinent or important—who could conceive an antagonist more completely disarmed ? The weapon he was fighting with was wrenched from his hand ! I stood charged with *having, on the 28th November, advised, or “ were the adviser,” using your words, when the cheque for £1,506 11s. 3d. was given.*

Recollect *dates*, Sir Bruce. Read this letter to the end, before you exult too much over your defeated foe. I have never been, and *am not* now, but an antagonist, strong in the position he *has taken* :—

“ Thrice is he armed who hath his quarrel just ;
And he but naked, though locked up in steel,
Whose conscience with injustice is corrupted.”

Upon this allegation I asked you this question as a gentleman,
“ *Whether I had any knowledge of or communication with you on the*

subject of the arrangement to which this cheque referred?" You answered freely, "I had not." Then, were you haply prompted by others; and the question is repeated; and the reply made was, "No, you were not consulted on it, but you advised a compromise." This was denied by me; but in place of assertion against assertion, I preferred the answer, that if a solicitor could be wicked or foolish enough to advise £1,506 11s. 3d. to be paid from the subscribers' money, it was the bounden duty of the chairman to have advised with his colleagues, and not acted upon such counsel.

The cheque was not produced, though called for; when it is, it will be found that other advice, if any, must have been given; and that the cheque was signed by some other members, and was the *act of the Board, without my knowledge or sanction* in any way whatever given or implied; and that, beyond having advised you, certainly, to insure, by vigorous measures, the restoration of the £4,000 so improperly placed in another bank, I never had any communication or conversation with any other member of the board.

Thus, out of your own mouth, I have received a repetition of the *recrimination* in which you inconsiderately indulged, "*if I did it, you were my adviser at the time.*" However, as to the fact of my being the confidential adviser, on the 28th of November, I will say a word to you. The charge made by me on the 9th of February, as to the £1,506 11s. 3d., was thus first avoided altogether, then fenced with, and ultimately admitted; and you added, "*If I have done wrong (I use your words, I believe and hope correctly), I will bear my proportion in making it good.*" Again stated, you were beset by others for several days, and did it. What, beset for several days! Why, just now I was your adviser at the time; now, you did it at the instance of others. Truly, Sir Bruce, thou art a shuffler in argument, and change your position, as the prism shows a different hue from whichsoever point it is regarded.

Having thus the *first charge* met, but not answered, as above; the second, fenced with, and ultimately admitted; the third, admitted; and the fourth, admitted and corrected, what was the result?

On me, the unpaid promoter—on me, the solicitor who withdrew from the Company in disgust—on me, the whole volume of your accumulated wrath and displeasure was wreaked. Did you show forbearance? Yea, the jury of yourself, backed by your solicitor, your secretary, your counsel, your brother, your colleagues, Dr. Phillimore, Mr. Chambers, and Sir Henry Pynn,—on me the collected wrath was poured, and I stood alone in the midst of your meeting. The anathema went forth, and I was left alone to brave the storm.

Did you measure words? Did you take time to reflect that you were probably condemning for ever an injured man, who had uttered no falsehood, who had done only a duty to society and to the shareholders in the statements he had made? Did you reflect that you might deprive him of his professional character by the statements in which you indulged? Charges which *you knew to be false** were put forth—

* You stated I was connected with Lord Huntingtower and the redoubted solicitor to the air-machine Company. You *know* that I never saw or had any transaction with his lordship, as I had explained to you, *vide Times*, on the 3rd July, and *Morning Post*, on July 5th, 1843. As to the serial patent, there never was a

letters to yourself—letters written for a particular purpose at the time, and not acted on, and which ought never to have been used, being wholly irrelevant for any useful or legitimate object—were brought forth, and in the hurry and heat of your irritation, I, the party to whose humane exertions in defending your character when assailed at the board, for being in the extraordinary position of belonging to two rival Companies at the same time—to whom you were indebted for the very seat as chairman you then occupied—the unpaid promoter, the party from whom you had *wrenched* the line formed entirely by my labour, on the pretext that my contract was a *void one*, and that I *could do nothing*—in the hurry and heat, I say, of your displeasure came out the fact that I had, by a minute of the board, on the 8th of November, ceased to be solicitor to the Company;* that I had ceased to possess, on the 8th of November, the confidence of the board, the celebrated allotment and finance committee, proving the greater part of its composition; that I had on the day I name ceased to be its officer, though a short hour before I was charged as being your adviser, when the cheque for £1,506 11s. 3d. had to be accounted for and explained. Thus, the sum lost in unlawful traffic and gambling in shares being more than the price agreed on, on account of the line itself. With such an array, such support, your denial came to what I had stated as to your admission to me on December 16th, of having on the preceding day had £10,000 in Exchequer bills in your pocket at the meeting; and when I feebly ventured to suggest, that the word and bare assertion of one party was only equal to the other, loud and fierce might the words of Sir Bruce Chichester, Baronet, be heard, pointing at me, and saying, “*Shall that man be believed, or I? Shall he be believed, or a BARONET?*” *A baronet!* Lordly title! type of truth! font of purity! Does it not reflect the ancestral honours of a generation of heroes, distinguished in deeds more noble even than the title bestowed for their achievements? I echo now, “*Which shall be believed?*” I charge you, baronet though you may be, with having said you held Exchequer-bills on the 16th December! *Do you deny that?* Why, the very banker’s receipt you seemed to read showed that Exchequer-bills exceeding £10,000 were in *your possession or power on the same 16th December*, and the printed paper you gave to the meeting, as the acknowledged accounts of the Company, admitted the fact, though *now* the sum is £4,929 *only*.

The question was not whether they were precisely on your person or in your pocket at the meeting, but *whether you had them at all?* The

Company formed at all. I took out the patent for the parties, and contributed some money to make the experiments, which are even yet progressing, and have never been repaid. The public never gave a single shilling to this speculation.

* This was the act of the committee, formed almost exclusively of the since celebrated allotment committee; and it was in consequence of their treachery towards me, which might almost be termed a conspiracy, being discovered, and in very shame they came to a resolution, they or you never had the courage to communicate to me. I am quite ready to go into this question with you or them, if desired. I will show the whole was done in breach of faith and honour, as well as done in fear, because I would be no party to their jobbing proceedings. Now, the fact will be accounted for, why £5,500 should be paid to the other solicitors, named by me, and £500 to myself. The committee paid them for the later accounts, and avoided the earlier debts, vainly imagining there was any difference as to their liability.

meeting did not know or suspect it. I declare solemnly and conscientiously that on the 16th December, at your own house, you stated you had £10,000 Exchequer-bills in *your pocket* (as to which fact I have made a declaration, a copy of which is subjoined, marked E, to prove the perfect conviction in my own mind). But, for the sake of fair argument, let us assume that I erred in comprehending the precise import of your words on the occasion referred to; where is the difference to the shareholders, whose trustee you had become, whether £10,000 had been in *your pocket* or *your power*?

You admit the latter, and deny merely the former. What, having yourself erred on two public occasions in jobbing with the finances of the Company, in so far that the two accounts are no more like each other than "Hyperion to a satyr," and both advisedly and considerably put forth upon the public—what! will not the difference of *four* letters be accorded as a mistake, but the author of it be trumpeted forth and defamed, with insinuations and aspersions, the more vile because they are wholly unsubstantial, except one, which I shall immediately and proudly meet!

The spirit of my charge was, that on and prior to the 16th of December, you had (in pocket or power, I care not for the sake of argument, though I adhere to the former as my still innate belief) £10,000 in Exchequer-bills for the shareholders of the Direct London and Exeter Railway, of which the subscribers had no knowledge on the preceding day; and that nothing stated by you on that occasion could lead to any such conclusion.

Thus, then, the question presents itself—which of our statements is best entitled to credit?

You have used hard words, Sir Bruce, but made no specific charge—much less *proved any*. I have taken a wholly independent position, and fearlessly contend your own admissions, reluctantly given, make out every part of my charges, except as to the transposition of the word *pocket* into *power*. Take the benefit of your denial, and call it *power*; but do not, consequently, denounce me. It is beneath your dignity, it is beneath your character, to bandy words of such special pleading minuteness, while the great questions between us are wholly undetermined.

Before I quit the subject—I hope for ever, for we have all heard enough of the *Direct London and Exeter Railway*—I wish to add one word as to the good taste and judgment shown by your colleague, Dr. Phillimore, at the meeting, lending his aid to crush one so overwhelmed by the number of your allies,* that I could not get a word of explanation heard after your fulmination, by making a statement, for which I really now feel thankful, as it is the only thing approaching any specific charge made against me during my whole connection with the Company. Dr. Phillimore and the committee, admitting, be it remembered, that *DEEDS* had been back-dated and falsified (for what purpose but to deceive the subscribers and delude parliament?), had the tamerity to charge me with ante-dating a newspaper order. I hope the gentlemen by whom public opinion is usefully and honourably directed, who are not altogether

* Complaints were made that the reporters of several of the leading papers were excluded—that the doors were closed, to the exclusion of the shareholders—and that your scrip, and that of the other *directors*, was given into the hands of parties having no real interest, to attend the meeting and support the chairman and committee. Do you deny this?

disinterested in this charge, will protect me, and by their aid I may be spared the necessity of entering any public meeting in future, at which, though it may have the presidency of a gentleman of your rank, I may be spared, also, the necessity of entering into personal vituperations and discussions wholly unfit for the condition of gentlemen, and resembling rather a bear-garden and a bull fight, if the imagination can depict the one or the other, and beyond which my power of comparison ends.

I was charged by Dr. Phillimore with ante-dating one order or two orders for advertisements, and with great acrimony he said he had a witness to prove the fact. I was astonished, and might well have forgotten the circumstance amidst the hundreds of orders given by me; but the fact was peculiar.

A few weeks since—I really recollect no more than it was since January—the collector of two railway publications called on me with accounts for the sums of £28 and £19 19s., and by accident duplicates were delivered, one of each of which I have. He asked me to sign the order for them, having applied to the committee, who stated if I would sign the order they would pay it. I positively declined it, stating I could sign no order in January for insertions which had taken place in October or November; but it was pressed upon me, as the truth was, that I had verbally given it, and without my aid they could not get their money.

Mark well, Sir Bruce, and pray you communicate the fact again to Dr. Phillimore, thus detailed; caution him against permitting deeds to be back-dated, and so soon afterwards charge another untruly with ante-dating an advertisement order.

“ Oh! would some power the giftie gi'e us,
To see ourselves as others see us;
It would from many a folly free us,
And foolish notion.”

Mark well, Sir Bruce, what I did, and that how necessary it is for us all not to overstep that strict course of moral rectitude, in howsoever slight a manner it may be required of us. Mark well what I did. I wrote certificates at the foot of the accounts, which, while they did justice to the publishers, were strictly correct and true. They ran thus (mind I speak from memory only, and may err as to *four letters*, but they were in spirit thus):—

“ I certify that an order was given by me previous to the insertion of the above advertisement,” which I signed, and put the date of the day on which the certificates were given.

You have mentioned an action against me for what I have stated. I think it hardly worth while saying anything to provoke it, as my object is vindication only; but I am ready at any time to go before a jury of our country as to the case I have presented to the public. If I wished to indulge in such a course, is not Dr. Phillimore's charge open to it! By the way, that gentleman also hinted at solicitors having an allowance made for advertisements; which I dispose of by stating most solemnly, that I have never received, or been promised a single shilling, in any way, from the £2,656 2s. 7d. stated to have been expended by the Company in advertising; neither have I ever had the slightest interest in any of the engineering expenses; which I advert to, as impressions

exist of very improper understandings sometimes being made in this respect.

The question is nearly closed between us. The discussion is unprofitable to all ; but it may be of some interest to the shareholders to know that the solicitor and promoter is untouched by the calumny and vituperation around him.

It has been hinted to me, that the matters relative to this Company will be brought before the notice of the House of Commons. Whether this be true, I know not ; or how far the question relative to the parliamentary contracts on which your authority and that of the committee is based, are capable of being enquired into. Having been a member of the legislature, you may know as to this better than myself ; but I assure you, and, through you, the public at large, I court every investigation ; and as you have charged me with being the adviser of the Company after I was dismissed without cause, I shall be anxious to state on oath the part I have taken in this as well as every other of the transactions of the Company over which you preside. The inutility of the meeting of the 15th of December was admitted, and resolutions passed which could not be acted on. The inutility of those passed on the 23rd of February I believe you will find equally clear and inoperative. The accounts are not sufficient. Any shareholder may arrest the property of the Company, and apply to a receiver, to have the accounts of all the sums received *up to this time* and payments made, stated and taken an oath ; and, on his proceedings, raise a very fearful question as regards the committee (including yourself, Dr. Phillimore, and Mr. Chambers), as the parties who have dealt with the greater part of the assets of the Company, whether the committee of management are not responsible for a return of the whole amount subscribed ; seeing that the project has not been proceeded with, and of which sufficient evidence exists of its being abandoned soon after the 30th of November, although the attempt has been made to throw the blame on the engineer. If he had done all you required, you know, the notices were not to be given, though I offered to pay £300 towards the expense. Of what avail, then, is the adoption of a most inaccurate report ?

The resolution to proceed against the provisional committee who applied for shares is inoperative, inasmuch as faith was not kept by the allotment committee to them and the public, and the practices of that section of the Company will absolve them from their engagements in law ; and the impossibility of ever getting a perfect record, in which some sixty or more parties are defendants, will, in practice, ever prevent any cause for partnership contribution coming to a hearing. Confess the object and end is, by means of threats, to get in deposits from the public to make good the defalcations of the former committee, saying nothing of your cheque for £1,506 11s. 3d.

I give this advice with perfect sincerity. I fear, among the multitude of counsellors which surround you, the most efficient and practical advice is wanting.

You have cleared my mind considerably of the obscurity attending the conduct of the committee who discharged me on the 8th November, and yet, with yourself, received me at your council-board (saving when I was requested to withdraw), with that openness and candour which befit Englishmen ; who went through the outward form of considering me their adviser, with their ink wet on their books of my dismissal,

gradually becoming blacker each passing hour and week, till the 27th December, when I relieved them of their difficulty, and withdrew for ever from an association lost to a proper sense of their duty to the public (as has been shown), as well as what was due to themselves. Do you recollect calling on me with Mr. Spicer, at my chambers, on the 10th November? Did you hint at what had passed, which, as chairman, you were bound to disclose? Did you not come and hold out your hand, in treachery and disguise? You said, it was an act of weakness. I say it was an act of fear—not bodily fear; but you had not the *moral courage* to become the Judas of your companions, and betray the man to whom you, and all the committee, owed their very places—the promoter of the Company—the then and now unpaid and unrequited author of an undertaking which you believed would reflect hereafter some additional laurels on your victorious brow. To you I was “too obsequious.” I treated you as a gentleman, and thought the behaviour reciprocal. If I erred in my conduct, there is little danger of its repetition.

To Mr. Blundell, your late colleague in this and other boards, I am described as being *overbearing, vulgar in the last degree, and objecting to all the sound measures of the Company*. I will not waste a word on that subject. Those who know me, will be able to appreciate such a representation; and to those who know me not, such an additional dish of calumny, and in the quarter whence it comes, will hardly make the cup run o’er.

When you next meet Mr. Blundell—be it in private life, be it at your own or other boards, be it elsewhere—tell him when he desires information as to the number of allotment letters purchased at his own instance, through his own broker, or applications for shares, *of which he was the referee*, I have been supplied within the last ten days with a list, which will show how many hundreds have been so withdrawn from the market, and shall be happy to furnish him with it, or any person interested in the question.

Much has been said about truth—one word as to honour. You have appealed to the *honour* of the provisional directors to take up shares allotted them in October last.

Do you consider it consistent with honour to be the approver, with your colleagues (including Dr. Phillimore and Dr. Chambers) of deeds being *back-dated*, not done innocently or inadvertently, but previous to a meeting, and in order to deceive the shareholders and parliament?

Do you consider it consistent with honour to hold a cheque for another, for £812 10s., charged to the subscribers of a Company, and approved at a public meeting, for which you held an agreement, drawn up by your own hand, for which a resolution had passed the board, though, as now alleged, it was not entered on the minutes?

Do you consider it consistent with your honour and control as chairman, to be a party to revoke this resolution, to cancel or withdraw the cheque actually drawn for the purpose, merely because Dr. Phillimore was absent, and when he next attended the board would be allowed to assume to dictate to the committee to rescind the resolution, and evade the question by postponing it till a full board should be summoned, not intending one should be summoned?

Do you consider it consistent with honour to take the produce of a man’s labour for months from his hands—evade the payment of the sum

you held for him—treat him with cold neglect and undeserved suspicion—till at length he must have been *obsequious and patient indeed to have* continued any longer associated with a committee worthy of such a chairman, and a chairman worthy of such a committee!

Do you consider it consistent with honour to produce false accounts to the shareholders, and suppress the fact of a payment and loss incurred by them from *your own act*; while you gravely charge them with 1,075 shares *purchased at par* by the *former finance committee*, but for which you paid them subsequently, "*because Sir Henry Pynn came to you with tears in his eyes*," or because you were "*beset for several days*" to commit a breach of trust?

After two months a statement has been issued from the Company, containing a suggestion that I was not the projector of the line. There is no difference between projector and promoter. The words mean nothing. The party who exerts himself, and on his responsibility, has the best and only substantial claim; though I always wished others, aiding in any degree, to be rewarded according to their merits and deserts.

In your report on the 23rd, you state that you have been acting with your colleagues, and mentioned Mr. Hungerford's name as one of them.

As I have felt it necessary to comment on the conduct of yourself and the committee, I think it right to add, that he is the only gentleman free from blame, and whose honour is at least free from blemish. *His* whole conduct has been consistent with that of an English gentleman. In a note from him, dated January 25th, he states that he was no longer connected with the railway, either as managing director, or member of the provisional committee, having withdrawn his name *immediately* after the meeting at the London Tavern (alluding to that of the 15th December). Mr. Hungerford also says in his letter, "I think it, however, right to state that I, as yet, see no reason why the committee should refuse to ratify their agreement with you."

I state this, as I wish no undeserved or implied blame to fall on any one.

I am, Sir, your obedient servant,
D. E. COLOMBINE.

Carlton Chambers, Regent-street,
February 26, 1846.

APPENDIX A.
(FIRST ACCOUNT OF THE COMPANY.)

	<i>£</i>	<i>s.</i>	<i>d.</i>
Cash received from the public - - - - -	32,395	0	0
Preliminary expenses - - - - -	£4,346	11	3
Engineering and surveying - - - - -	14,050	0	0
Law expenses - - - - -	8,791	0	0
Advertising - - - - -	2,639	19	4
Printing, stationery, &c. - - - - -	584	0	0
Travelling expenses - - - - -	236	0	0
Rents, salaries, secretaries, and clerks	557	0	0
Miscellaneous expenses - - - - -	186	0	0
	£31,390 10 7		

APPENDIX B.		£	s.	d.
Paid in shares to Mr. Colombine and Mr. Ancrum (Mr. Colombine 1,000, and Mr. Ancrum 636, total, 1636)	}	2,732	1	3
Cash to Mr. Colombine	- - - - -	300	0	0
Ditto ditto	- - - - -	812	10	0
Cash to Mr. Ancrum	- - - - -	500	0	0
		£4,344	11	3

APPENDIX C.
(SECOND ACCOUNT OF THE COMPANY.)

<i>Dr.</i>				
To deposits on 23,495 shares, at £1 7s. 6d.	- - - - -	32,305	12	6
Interest received of Union Bank of London	- - - - -		1	16 5
		£32,307	8	11
<i>Cr.</i>				
By paid Mr. Colombine*	- - - - -	300	0	0
" Mr. Braithwaite	- - - - -	8,105	0	0
" Mr. Simmonds, traffic taking	- - - - -	1,160	0	0
" Mr. Buckland and others, surveying Windsor branch	- - - - -	335	17	0
" Country solicitors and agents	- - - - -	1,836	18	11
" London solicitors	- - - - -	6,000	0	0
" Parliamentary agent	- - - - -	105	0	0
" Advertising	- - - - -	2,656	2	7
" Printing and stationery	- - - - -	881	19	6
" Travelling expenses	- - - - -	125	1	6
" Rent, expense of offices, salaries to secretary, clerks, &c.	- - - - -	1,231	13	5
" Mr. Ancrum	- - - - -	150	0	0
" 1,075 shares, purchased by the former finance committee, at par	- - - - -	1,478	2	6
" Cash in hands of Dr. Blundell	- - - - -	512	10	0
" Cash charged by ditto for petty expenses	- - - - -	374	0	7
" Exchequer bills	- - - - -	4,929	0	0
" Balance in hands of former finance committee	- - - - -	315	18	9
" Balance at bankers	- - - - -	1,810	4	2
		£32,307	8	11
ASSETS :—				
Exchequer bills	- - - - -	4,922	0	0
Balance (cash)	- - - - -	1,810	4	2
Office furniture (say)	- - - - -	80	0	0
1075 shares purchased by former finance committee	- - - - -			
Cash in hands of former finance committee	- - - - -	315	18	9
" Dr. Blundell	- - - - -	512	10	0

* This was to repay cash advanced by me and paid, nothing to do with costs.—
D. E. C.

CLAIMS :—	£	s.	d.
Mr. Braithwaite's claims - - - - -	£5,533	6	5
Sundries, at present unascertained (say) - - - - -	500	0	0
Mr. Colombine - - - - -			

APPENDIX D.

<i>Dr.</i>			
1,075 shares, purchased by the former finance committee, at par - - - - -	1,478	2	6
Cash in the hands of Dr. Blundell - - - - -	512	10	0
Balance in the hands of former finance committee - - - - -	315	18	9
	<hr/>		
	£2,306	11	3

<i>Cr.</i>			
Cheque for £500, signed by finance committee, and given to Dr. Blundell (the acting secretary) - - - - -	500	0	0
Ditto - - - - -	300	0	0
Cheque, signed by Sir Bruce Chichester (as chairman of the acting committee) and others, to pay for the scrip - - - - -	1,506	11	3
	<hr/>		
	£2,306	11	3

APPENDIX E.

"I, David Elwin Colombine, of No. 8, Carlton Chambers, Regent-street, Westminster, gentleman, do solemnly and sincerely declare that I attended the public meeting of the shareholders in the Direct London and Exeter Railway, at the City of London Tavern, on the 15th day of December last; and at that time I had no knowledge or suspicion that Sir Bruce Chichester, Baronet, then had in his possession or power any Exchequer bills whatever belonging to the Direct London and Exeter Railway Company, my impression being that those previously held by the Company had been sold. I also declare that, on the following day, namely, the 16th day of December last, the said Sir Bruce Chichester, on my calling upon him at his then residence in Eaton-place, Pimlico, distinctly and positively stated and admitted, in reply to a question from me whether the banker's account which had been previously kept at Messrs. Currie's had been closed, that he had caused all the money to be withdrawn from that bank some time previous to the meeting, for fear of creditors attaching the funds of the Company, and that at such meeting on the 15th day of December last, he had actually, and in his possession or power at the time, £10,000 in Exchequer bills. I further declare that, to the best of my recollection and belief, the words then used by the said Sir Bruce Chichester, were, addressing me, 'You will be surprised when I tell you I had £10,000 in Exchequer bills in my pocket at the meeting.' These words were further uttered with a peculiar smile, intimating his satisfaction at the fact; and I was imme-

diately struck with the impropriety of his conduct, as well as the chance of loss in attending a public meeting with documents of such value. I further declare, that within two days afterwards, (I believe it was on the 17th of the same month) I applied to him at the office in Regent-street, on the subject of the cheque for £812, and he then stated he did not think he could pay me till a sum expected was received from Scotland; thus leaving me to expect and believe that it was a mere temporary delay, and not that any objection then existed to carry out the arrangement he had made on the 13th and 15th instant, to pay me £812 10s. in money, and 1,000 shares, neither of which, nor any part thereof, have I ever received up to the time of making this declaration.

"I also believe the engagement made was not fulfilled, in consequence of fears entertained by the committee that they would not have a sum in hand as large as they thought necessary to indemnify them against claims and costs which might be made upon them. But no notice of any kind has been given to my applications, by letter or otherwise, except the offer of £500 casually made by Mr. Chambers, on the 26th December last.

"And I make this solemn declaration, &c.

"D. E. COLOMBINE.

<p>"Declared, &c., at the Police Court, Marlborough-street, this 27th day of February, 1846, before me,</p>	}	<p>"J. HARDWICK, "Magistrate for the Metropolitan Police District."</p>
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DIRECT INDEPENDENT KENT, SURREY, AND SUSSEX.

This was a bubble started just before the crisis, and sank unnoticed. It is a stag line.

(PROSPECTUS.)

DIRECT INDEPENDENT KENT, SURREY, AND SUSSEX UNION RAILWAY.

(Provisionally registered, pursuant to 7th and 8th Vict. c. 110.)

CAPITAL, £1,500,000, in 75,000 Shares of £20 each.

DEPOSIT, £2 2s. per Share.

TEMPORARY OFFICES—Queen Street Chambers, Queen Street, Cheapside.

PROVISIONAL COMMITTEE.

The Right Hon. Lord Dunboyne, Chairman of the Cheltenham, Oxford, and Brighton Junction Railways.

The Right Hon. Lord Ingestre, M.P.

Sir William Wynn, K.B., Chairman of the North Wales Railway.

Sir James Eyre, M.D., Lower Brook Street, Director of the Hull, Birmingham, and Swansea Junction Railway.

Major Hawkes, Baker Street, Portman Square, Chairman of the Jamaica, North Midland, North Midland Extension, Director of the St. Alban's and Hertford, Bristol and Dover, Boston and Birmingham Direct, and the Lynn and Fakenham Railways.

- Captain L. H. Scott, R.N., Royal Naval Club, Bond Street, Director of the Jamaica, North Midland Extension, St. Alban's and Hertford, Bristol and Dover, Boston and Birmingham, and the Lynn and Fakenham Railways.
- The Rev. Stephenson Isaacson, A.M., Berners Street, Director of the Hull and Holyhead Direct Railway.
- R. Stapleton St. Aubyn, Esq., Augustus Cottage, Regent's Park.
- Thomas Steele, Esq. Edgeware Road, Director of the Railway Club Chambers.
- Captain Bellew, Kensington, Director of the Hull, Birmingham, and Swansea Railway.
- R. Sylvanus P. Banfield, Esq., Percy Street, London.
- Thomas Charles Newton, Esq., Bruton Street, Berkeley Square, and Lugwardina, Herefordshire, Director of the Isle of Man, and the Hull, Birmingham, and Swansea Railway.
- John Lloyd, Esq., Nicholas Lane, and Stoke Newington, Director of the Thames, Southern, and Eastern Counties Junction Railways.
- J. S. Moore, Esq., 5, Stone Buildings, Lincoln's Inn.
- Rees Price, Esq., Tyne Hall, Ilford, Essex, Director of the Hereford and Merthyr Tydvil Junction, and North Western Trunk Railways.
- William Davison, Esq., Rothbury House, Northumberland.
- Joseph Turnley, Esq., Belgrave Square, London
- W. B. Palmer, Esq., Piccadilly, and Birmingham.
- J. Bowra, Esq., Shorne, Kent.
- Charles M'Lean, Esq., Newlands, Edgeware.
- John Ramsden, Esq., Kensington Gore, and Doncaster, Director of the Deal and Dover, and Lyme Regis Railways.
- John White, Esq., 7, Park Place, Clarence Gate, Regent's Park.
- C. M. Brown, Esq., Montagu Street, Portman Square, Director of the Cheltenham, Oxford, and Brighton Junction, and Trinidad and Great Eastern, and South Western Railways.
- John Strange Williams, Esq., Mitcham, Surrey, Director of the Direct London and Hastings Railway.
- James Gibbins, Esq., Deputy Chairman of the British Annuity Company, Broad Street, City.
- Francis G. Moore, Esq., Half Moon Street, Piccadilly.
- Charles Maplesden Noakes, Esq., Wrotham, Kent.
- Thomas Walker, Esq., Wrotham, Kent.
- Thomas Best, Esq., Cuckfield, Sussex.
- H. Wood, Esq., Bloomfield Cottage, Camberwell, Surrey.
- With power to add to their number.
- BANKERS**—Commercial Bank of London, Lothbury, and 6, Henrietta Street, Covent Garden.
- CONSULTING ENGINEER**—Edward Lomax, Esq.
- ACTING ENGINEER**—R. Finlayson, Esq.
- ASSISTANT ENGINEER**—Mr. Charles Clark.
- SURVEYORS AND VALUERS**—Messrs. Booth and Son.
- SOLICITORS**—Messrs. Garratt and Co., Queen Street Chambers, Queen Street.
- LOCAL AGENTS**—Messrs. Tribe, Worthing.

A Prospectus, with the complete list of Local Provisional Committee, will be issued in a few days.

The object of this railway is not only to afford accommodation to the counties proposed to be traversed, but will also unite with the Brighton and Cheltenham Direct Railway, the Metropolitan Railways Junction, the Chatham, Rochester, Maidstone, and Tunbridge Wells Railway, and the Coast Railway. The great importance of this union line of railway will be immediately seen upon reference to the map. It is intended to commence at High Street, in the Borough, passing through Camberwell, where it will divide and take the following course, viz. :—The Kent branch will pass through the thickly-populated parishes of Peckham, Peckham Rye, Lewisham, Bromley, Orpington, Chelsfield, Shoreham, Otford, Kemping Seal, Wrotham, near Addington, Town Malling, East Malling, and Ditton, from thence to Maidstone, where it will form a junction with the Chatham, Rochester, Maidstone, and Tonbridge Wells Direct Railway. The Surrey and Sussex branch will run through Brixton, Brixton Hill, Clapham, Balham Hill, Tooting, Mitcham, Morden, Cheam, Ewell, Epsom, where it will form a junction with the proposed branch to Leatherhead, Headley, Mickleham, from thence to Dorking, where it will communicate with the Metropolitan Railways Junction, and proceed through Capel, Rusper, Warham, Horsham, Nuthurst, West Grinstead, Ashurst, Henfield, near Wiston, and on to Steyning, forming a junction with the proposed Brighton and Cheltenham Railway, continuing through Bramber, Coombes, Lancing, Sompting, Broadwater, and to Worthing, where it will come in immediate contact with the Coast Railway.

It is satisfactory to find, from strict calculations, that the passenger traffic arising from the densely populated parishes contiguous to the metropolis, hitherto unsupplied by railway, viz., Camberwell, Peckham, Peckham Rye, Brixton, Clapham, Tooting, Mitcham, &c., will give this line a decided advantage over all other projects, and will alone secure a profitable return.

The general passenger traffic of the Kent branch (notwithstanding its unquestionable extent) may be considered of secondary importance to the immense transit of agricultural produce which this county, justly termed "the garden of England," daily sends to the metropolitan markets, and particularly the locality of the Borough.

The importance of Maidstone as a terminus is obvious, it being situated on the River Medway, and containing courts of justice, county gaol, cavalry depôt, and many other public establishments, the assizes and sessions, and the business of the whole county being conducted there. It is also, with the adjacent villages, the most flourishing part of Kent, being surrounded by paper-mills, which are more numerous and extensive in this neighbourhood than in any other part of the kingdom, besides several other extensive factories, breweries, &c.

The Surrey and Sussex branch, besides unquestionably creating an immense increase of passenger traffic between the metropolis and the flourishing and now celebrated watering-place, Worthing, must necessarily command the entire transit of fish, of which many tons are conveyed weekly from Worthing to London, independent of other commo-

dities, and the agricultural produce of these two fertile and productive counties.

The proposed line will fill up the railway chasm at present existing between London and Epsom, Dorking, Horsham, and Steyning, and will afford direct intercourse with Worthing, one of the most romantic, fashionable, and delightful watering-places on the coast of Sussex, and an independent railway will of necessity occasion a great influx of company to this already justly celebrated place. The superiority of Worthing as a bathing-place stands unrivalled. The views of the surrounding country are both extensive and picturesque; its sands are particularly worthy of note, being as smooth as carpet, and offering a healthy and delightful drive of ten miles. It is sheltered by an uninterrupted chain of the South Downs, which excludes the wind even in the winter months. The salubrity of its climate is too well known to require further comment.

But the greatest source of profit to the shareholders will arise from the immense number of passengers now proceeding by omnibus and other conveyances to and from the metropolis, and the extensive and densely populated suburbs through which this line is intended to pass, and it may be fairly calculated that not less than 30,000 will daily avail themselves of the accommodation afforded to them by this Company.

The promoters feel considerable satisfaction in announcing a source of revenue from this project never yet contemplated by any other Company, viz., the construction under the line to Camberwell of dwellings or tenements, forming one continued street, thereby improving the locality through which it runs; from this an immense income will be derived.

The entire distance of these lines from Camberwell will be about ninety miles, and free from engineering difficulties. The character of the country through which the railway will pass is peculiarly favourable, and from the report of the engineer, made on his preliminary survey, they will be constructed within the sum proposed.

It is intended to construct this railway on the atmospheric principle, both on account of the facility which that method affords for stopping at short distances to accommodate the highly respectable suburban population, to avoid the possibility of collision, and also the bringing of locomotive engines into London.

Powers for allowance of interest at £4 per cent. on the paid-up capital will be taken, and the liability of shareholders limited to the amount of their subscriptions.

Power will also be applied for in the act, and in the meantime will be given to the directors, to alter or vary the proposed capital, either before or after the allotment, in order to construct branch lines to Sevenoaks, to Dulwich and Norwood, and to the South Western Railway, thereby accomplishing the much desired object of giving that Company a city terminus.

Applications for prospectuses and shares may be made to the secretary, at the temporary offices of the Company, Queen Street Chambers, Queen Street, Cheapside, London; or to the solicitors, or the following brokers: Messrs. Preece and Evans, 39, Lothbury; Mr. Matthew Coston, 5, Bank Buildings, London; Mr. W. H. Collis, Birmingham; Mr. J. O. Niel, Manchester; Messrs. Townley and White-

head, Liverpool; Messrs. Chantrell and Boyes, and Messrs. Wellbeloved, Barwick, and Co., Leeds; Mr. Thomas Boardman, Blackburn; Messrs. Horncastle and Hibbard, Hull; Mr. J. M. Balme, Gloucester; Messrs. T. N. Bardwell and Sons, Sheffield; Mr. Joseph Clark, Jun., Southampton; Mr. Francis Naves, Nottingham; Messrs. Wrexford, Nicholls, and Wrexford, Bristol; Messrs. Duncan and Hutchinson, Glasgow; Messrs. Dowling and Howden, Edinburgh; Messrs. Grayston and Earle, York; Mr. John Lowthin, Newcastle-on-Tyne; Messrs. Smallpage and Co., Burnley, Lancashire; and Mr. William Stimson, Bedford; Messrs. Coates, Whitley, and Co., Bradford, Yorkshire.

FORM OF APPLICATION FOR SHARES.

TO THE COMMITTEE OF MANAGEMENT OF THE DIRECT INDEPENDENT KENT,
SURREY, AND SUSSEX UNION RAILWAY.

Gentlemen,—I request you will apportion me _____ shares of £20 each in this Company, and I undertake to accept the same, or any less number you may allot to me, and to pay the deposit of £2 2s. per share, and all future calls thereon, and to sign the parliamentary contract and subscribers' agreement when required.

Dated the _____ day of _____ 1845.
 Name in full _____
 Residence _____
 Business or Profession _____
 Place of Business (if any) _____
 Date of Application _____
 Name of Referee _____

GREAT WESTERN RAILWAY BETWEEN BRISTOL AND LONDON.

CAPITAL £3,000,000, in Shares of £100 each.

DEPOSIT £5 per Share.

Under the Management of a Board of Directors, consisting of the
LONDON COMMITTEE.

John Bettington, Esq.
 Henry Cayley, Esq.
 Ralph Fenwick, Esq.
 George Henry Gibbs, Esq.
 Robert Fred. Gower, Esq.
 Riversdale W. Grenfell, Esq.

Robert Hopkins, Jun. Esq.
 Edw. Wheler Mills, Esq.
 Benjamin Shaw, Esq.
 Henry Simonds, Esq.
 William Unwin Sims, Esq.
 George Wildes, Esq.

C. A. SAUNDERS, Esq. *Secretary*.
 Office, No. 17, Cornhill.

BRISTOL COMMITTEE.

Robert Bright, Esq.
 John Cave, Esq.
 Chas. Bowles Fripp, Esq.
 George Gibbs, Esq.
 Thos. Rich. Guppy, Esq.
 John Harford, Esq.

Wm. Singer Jacques, Esq.
 George Jones, Esq.
 James Lean, Esq.
 Peter Maze, Esq.
 Nicholas Roch, Esq.
 John Vining, Esq.

W. TOTHILL, Esq., *Secretary.*

Railway Office, Bristol.

BANKERS.—London, Messrs. Glyn, Hallifax, Mills, and Co. ; Bristol, Messrs. Miles, Harford, and Co. ; Messrs. Elton, Baillie, Ames, and Co. ; Messrs. Stuckey and Co.

SOLICITORS.—London, Messrs. Swain, Stevens, and Co. ; Bristol, Messrs. Osbornes and Ward.

ENGINEER.—J. K. Brunel, Esq.

Applications for Shares to be addressed to the Secretary in London or Bristol, from whom the Prospectus may be obtained.

Subscribers will not be answerable beyond the amount of their respective Shares.

The establishment of a railway for the important purpose of connecting the western districts of this country with the metropolis has been resolved upon, as the result of a minute investigation, conducted by the municipal corporation of Bristol in concert with the other public bodies of that city.

The general advantage of railways is no longer to be considered a speculative theory. They have invariably conferred an additional value upon the property contiguous to them ; and this fact alone establishes their claim to be considered as national undertakings, contributing to the permanent wealth of the country.

The Great Western Railway is recommended also by peculiar local advantages.

The actual amount of travelling on the line of the projected railway is even greater than is commonly supposed : it exceeds, in fact, that on any other road to an equal distance from London : it forms the communication of the metropolis and its vicinity westward, with Windsor, Maidenhead, Reading, Oxford, Cheltenham, Gloucester, Bath and Bristol. Daily communication, to a very large extent, takes place by coaches from the latter places to the West and South-west of England, including the clothing districts of Wilts, Somerset, and Gloucester, Wells, Bridgwater, Taunton, Exeter, Plymouth, Devonport, Falmouth, &c. : and by steam-boats, with the ports of the Bristol Channel, South Wales, and Ireland. On considering these various and extensive sources of revenue to the railway, the amount subsequently stated will excite no surprise.

The additional facility of intercourse afforded by the establishment of a railway, will infallibly multiply the present large number of travellers. That mode of communication will also afford an improved conveyance of

goods : it will encourage manufactures in the vicinity of the coal fields which surround Bristol, and in both these ways promote the commerce of that port : it will diffuse the advantages of the vicinity of towns over the whole tract of country intersected by it : it will improve the supply of provisions to the metropolis, as well as to those towns, and extend the market for agricultural produce ; it will also give considerable employment to the labouring class, both during its construction and by its subsequent effects ; and will enhance the value of property in its neighbourhood.

The country has been carefully examined and a survey executed, comprising sections, &c., of various lines, and the directors will be guided in their ultimate selection, by the advantages which each may seem relatively to represent. The course of one line, which is about 120 miles in length, is described in the accompanying lithographic sketch. It passes through a favourable country, consisting chiefly of gravel, chalk, and freestone, and if adopted will be more nearly level than any other extensive railway yet projected. This circumstance will facilitate the speed of the locomotive engines ;—will diminish the power required, and, consequently, the expense. The line of approach to London from Maidenhead, may be made either to the north or south of the River Thames.

The construction of a road so nearly level, in the hilly country about Bath and Bristol, will unavoidably be a costly work. The liberal allowances made for this and for the other requisite expenses, are the causes of the large amount of the estimate of cost. That estimate has been carefully examined by several gentlemen, practically acquainted with the details of similar works, and is pronounced by them to be considerably beyond the sum necessary for the completion of the undertaking.

The estimated cost of the undertaking, for the completion of which four, or, at the utmost, five years will be required, is as follows :—

Parliamentary and other preliminary expenses	- -	£50,000
Purchase of land, including compensations	- - -	340,000
Entrance to London, Bristol, and Bath, with depôts	- -	223,000
Excavations and embankments, including tunnels and their masonry	- - - -	835,300
Bridges and masonry, exclusive of that of the tunnels	- -	474,800
Rails, &c. laying ditto, making road, &c.	- - -	520,700
Minor depôts and stopping places	- - -	13,000
Lighting tunnels	- - -	15,000
Locomotive power, including water stations	- - -	78,500
		<hr/>
		£2,550,300
Add 10 per cent to over contingencies, superintendence, &c.		255,030
		<hr/>
Total	- - - - -	£2,805,330

A carefully conducted inquiry into the sources of revenue gives the following results :—

The present annual number of travellers by coaches and posting, ascertained from official sources and actual observation (excluding all travelling with private horses), paying 2*d.* per head per mile, would amount to - £302,118 8

The quantity of goods at present conveyed along the line by coaches, vans, waggons, &c. (exclusive of grain, hay, straw, coal, lime, manure, &c.) at about one-half the present charge, gives the amount	-	-	-	-	107,765	16	
The actual quantity of cattle passing along the line, at about half the present expense, would yield	-	-	-	-	35,750	0	
						<hr/>	
						£445,634	3
The number of passengers between Liverpool and Manchester, the intercourse between which was formerly so frequent, rapid, and cheap, as to leave apparently but little room for increase, has nevertheless nearly tripled; that on the Stockton and Darlington Railway has increased fortyfold. Supposing the number on the Great Western road only doubled, this would add	-	-	-	-	302,118	8	
						<hr/>	
Total						£747,752	11
						<hr/>	

The sums in the table of estimated revenue, are not mere calculations founded on the assumption of probabilities; but have been deduced from a careful inquiry into facts. Thus the number of coach passengers has been found by Stamp Office returns of the coaches. The number of persons posting has been estimated by counting the number of carriages drawn by post-horses, at different points of the line; the goods have been determined by ascertaining the number of waggons and other public conveyances; and the amount of cattle has been obtained from the most respectable salesmen.

In that estimate a very low prospective increase in travelling is assumed; and no credit whatever is taken for increase in the quantity of goods of the descriptions at present conveyed, or for the new traffic which so cheap, certain, and rapid a mode of conveyance would unquestionably introduce. It is therefore much below what might safely be depended on.

From the gross revenue must be deducted the annual expenses of maintenance and locomotive power. These expenses on the Liverpool and Manchester Railway—from causes chiefly referable to the novelty of the undertaking, and, therefore, to inexperience in its execution and arrangements—have been hitherto unexpectedly heavy; amounting, exclusive of interest, to nearly eleven-twentieths of the gross receipts. But even supposing them to become equally heavy on the Great Western Railway, and the revenue also to remain stationary at the above estimate—both highly improbable suppositions—the receipts would still afford a dividend of 12 per cent. on the capital.

The estimate of revenue includes no portion of the canal or coasting trades, nor any of the following items—although there is no doubt that, when the railway shall have been brought into operation, they will form a very important part of its business and revenue:—

All increase in the quantity of cattle, fresh provisions and agricultural produce, especially of the more perishable kinds, conveyed from Ireland, from Wales, from the West of England, and from the vicinity

of the line—the coal of Gloucestershire, Somersetshire, and Monmouthshire—lime and building materials.

Fresh foreign fruit, especially oranges and lemons; early cargoes of Mediterranean fruit, and such other articles of foreign produce as it may answer to send by railway. Such goods, including the manufactures of the West of England and South Wales, as will not bear the expense of the present modes of land carriage, or which cannot be sent by sea, except at a great disadvantage, partly from delay, and partly from risk of damage.

The products of such manufactories as may be established in the vicinity of Bristol, in consequence of the combined advantages afforded by the neighbourhood of coal and of the railway.

It is the deliberate and decided conviction of the directors that the proposed railway will be highly beneficial to the commerce of the country, and to the agriculture, trade, and manufactures of the vicinity of the line, of the west and south-west of England, as well as of South Wales and Ireland; and to the value of property throughout the tract of country within its influence.

And that it will afford a safe and profitable investment to those who may embark their property in its construction.

August, 1833.

SMITH v. NEWCOMB.

THE futility of relying on any decision of the Courts of Law, as a precedent by which other decisions may be safely anticipated, is clearly shewn in the opinion laid down by Mr. Justice Patteson in the case of *Smith v. Newcomb*. In this instance there was no real variation from the well-known circumstances of *Walstab v. Spottiswoode*. There may have been some distinctive features, but there was no real difference. In *Smith v. Newcomb* the shares were all *allotted*—in *Walstab v. Spottiswoode* they were *not*. In the latter case, the few who paid could not get scrip, for the directors prudently abandoned the scheme when they found it could not be carried out;—in the former, those who paid got scrip, which the persevering folly of the board made more worthless every hour. These are the distinctive features—the one party gave scrip (value *nil*, because the scheme failed) in exchange for gold! the other gave *nil*, and saved expenses. But what did either do more than the other towards the fulfilment of their contract—the contract to “form a Company for going to Parliament?” Not one tittle! We have frequently demonstrated scrip to be a nonentity as regards the material existence of a Company. It is a mere arrangement of convenience. And what, we should like to know, is an *allotment*, if not *paid upon*? What is the mere formality of issuing a number of letters if they produce nothing? If the ruling of one learned judge already be worth anything—“that the contract is to form a Company,” then the mere *issue* is a farce, and may be pleaded as a blind to cover every species of delinquency. Will any one point out the substantial difference between those whom the waters of despond overtook before they had actually issued their letters, and those who had done so just in time to meet the flood which washed away all hope of payment?—*Railway Times*.

KENTISH RAILWAY COMPANY.

AGREEABLY to promise given some time since in *The Railway Register*, we give the original prospectus of the first North Kent Railway:—

KENTISH RAILWAY COMPANY.

CAPITAL—£1,000,000, in 10,000 Shares of £100 each.

LONDON DIRECTORS.

Sir James Cockburn, Bart., Chairman
 Samuel Baker, Esq., Alderman (Rochester), Deputy-Chairman
 S. B. M. Barrett, Esq., M.P.
 Captain F. T. Buller
 Samuel Baker, Esq., Ald. (Rochester)
 Sir James Cockburn, Bart.
 J. Campbell, Esq.
 A. Crumbie, LL.D.
 James Faden, Esq.
 John Gray, Esq.
 Peter Moore, Esq., M.P.
 George Magnus, Esq.
 William Newman, Esq.
 Sir Charles Price, Bart.
 Samuel Page, Esq.
 Matthew Russel, Esq., M.P.
 Hon. Col. G. A. C. Stapylton
 Sir John Sewell, Knt., LL.D.
 R. Smith, Esq.
 Lt.-Col. R. Torrens, R.M., F.B.S.

AUDITORS—Ebenezer Fernie, Esq.; Richard Heale, Esq.; Charles Malton, Esq.

TREASURERS—Messrs. Kay, Price, Marryat, and Coleman; Messrs. Cockburn and Co.

ENGINEER—Thomas Telford, Esq.

INSPECTOR OF WORKS—James Faden, Esq.

STANDING COUNSEL—William Harrison, Esq.

SOLICITORS—Messrs. Wilks and Verbeke

SECRETARY—Mr. George Varlo

ACCOUNTANT—Mr. Henry T. Ryde

The application of steam to locomotive and stationary machines, for the conveyance of passengers and goods, will give a new and extraordinary impulse to the industry of this country. Reducing the cost of transporting and exchanging commodities has an effect upon agriculture and manufactures, precisely analogous to that which would be produced by improving the quality of the soil, or increasing the skill and energy of the workmen.

In no part of the country will the benefits resulting from the improved
 RAILWAY PORTFOLIO, SEPTEMBER, 1846.

mode of conveyance be more conspicuous than in Kent: although to locomotive machines this Company will not confine its operations, but will, in addition thereto, make use of the assistance of horses. Upon the greater part of the proposed line, the traffic is already immense. Along the great Kent Road, the farm produce of a fertile and highly-cultivated county, especially in hops, is conveyed to the London market, and all the various commodities required for the consumption of the county are returned in exchange. By the same line, immense quantities of lime and of bricks are brought to the metropolis; the communications with the great naval and military depôts are kept up; and the intercourse between England and the Continent of Europe carried on.

The quantity of goods, including naval and military stores for the great government depôts of Deptford, Woolwich, and Chatham, which pass upon the line which it is proposed that the railway shall take up, cannot be ascertained with sufficient precision to form the basis of an accurate calculation. But upon this line there are minor and incidental sources of advantage, which, being susceptible of calculation, may be compared with the expense of constructing the railway, so as to give a definite idea of one portion of the profits of the undertaking.

According to the estimate of experienced engineers, the expense of a railway ought to be £5,000 per mile; but let it be supposed that it may require £10,000 per mile to lay down a railway between London and Woolwich, and that the first portion of capital advanced will be £100,000. The number of short coaches running upon this line is 150 per diem. Admitting that on the average these coaches are only half-filled, their receipts for passengers alone will be £26,000 per annum. As locomotive machines, moving with twice the velocity, and with greater safety, must in a very great degree supersede the coaches, the Company will probably obtain from passengers alone, independently of the luggage, an income of £20,000, or £20 per cent. upon the capital of £100,000, requisite to carry the railway to Woolwich.

Between Woolwich, Greenwich, Deptford and London, one hundred waggons and carts pass daily, some of them three or four times per day. From Greenwich, passage and luggage boats go every half-hour; from Woolwich, luggage vessels, of considerable burthen, go daily. The locomotive machines, running in half the time, and at less expense, and not subject to delays and dangers from the state of the weather, will necessarily supersede almost all these modes of conveyance, and in the best sense of the term, monopolise the whole carrying trade, including the transport of naval and military stores, between London, Deptford, Greenwich, and Woolwich.

At the very lowest calculation, the profits arising from all these sources will be equal to that arising from the passengers, who now go by the coaches, and will raise the return upon the capital of £100,000, required in laying down the railway as far as Woolwich, to 40 per cent. Thus even were the undertaking to terminate at Woolwich, it would prove a most beneficial investment.

From Woolwich to Gravesend, along the level under Belvedere, there are no buildings to interfere, and the expense of the railway could not exceed £5,000 per mile. The distance being thirteen miles, the capital required for this section of the undertaking will be about £65,000. It would be superfluous to go into calculations to prove, that in conse-

quence of greater expedition and cheapness, the carriage of the passengers and goods now conveyed between Gravesend and London by coaches, waggons, steam-vessels and hoys, would be transferred to the railway, and would yield upon this portion of the capital a large return. Though the ordinary commercial intercourse between these places would yield the company an ample profit, yet this profit appears as nothing when compared with that arising from a source which the railway would itself create.

On the coals landed below Gravesend, the London port duties are not paid. As soon as the railway reaches this point, the several towns upon the railway, and all the surrounding neighbourhood, will be supplied with coals by land-carriage. The saving to the public will be most important, and the advantage to the Company immense.

From Gravesend to Stroud, a distance of eight or nine miles, the ground becomes less favourable, and the railway might require £8,000 per mile, or a capital of £70,000. There the railway would communicate with the populous towns of Rochester and Chatham, and, by a branch with Maidstone and the interior of the country, to Tunbridge, and the Wealds of Kent.

This branch, indeed, is of the first importance, since coals, which now cost 30s. at Rochester, are sold in the interior of the county at double that sum; but if the proposed railway be carried into effect, the same article would be sold at a price not exceeding from 40s. to 45s. The conveyance to and from these places of coals, unburthened with the London duties, of farm produce, especially of hops, of manufactured colonial and foreign goods, cannot fail to yield on this portion of the Company's capital, a very high return. But to this section of the railway there is an incidental advantage, which, as it is capable of being demonstrated by figures, will serve to give a more precise idea of the vast importance of the present undertaking.

Between London and Rochester twelve coaches pass daily, which, supposing that on the average they are half filled, produce, by passengers only, £34,000 per annum. Thus the present coach passengers alone, supposing luggage and parcels to pay the expenses of the locomotive machine, would yield a profit of 40 per cent. on the capital of £70,000 required to carry the rail from Gravesend to Stroud.

The railway passing through Faversham to Canterbury, and on to Dover and to Sandwich, should the harbour be opened, will give to the city of Canterbury the advantages of a double port; while it will render Faversham and Sandwich, and particularly Dover, the depôts of a most valuable foreign trade. To Faversham the measure will also be of great value, since the harbour is excellent; and during the coming session, a bill, of which notice has already been given, to improve that port, will probably be passed through parliament. Branches of the railway to Margate and Ramsgate, in addition to the profit arising from the carriage of all kinds of goods, will secure a considerable incidental advantage, by conveying more rapidly, more securely, more punctually, and more economically than the steam vessels, the various classes of visitors who frequent these places for amusement or health.

The cheap and rapid communication about to be established will give an incalculable impulse to the property of Kent, and confer the most important advantages on all its inhabitants: every article which

they do not produce, they will be enabled to sell more advantageously. Its home trade with London, and its foreign trade with France, especially in fruit, fish, and game, and all perishable articles requiring rapid and certain conveyance, will be simultaneously increased.

Hitherto the boats and small craft of the French coast have been excluded from the Thames by the port duties, and have been prevented from landing their various French produce in the ports of Kent, by the difficulty and expense of conveying it to London: these impediments will now be removed; the railway branching through the county to every town upon the coast, and from the coast to the interior of the county, will make Kent the centre of our trade with France, and will render Canterbury and Dover commercial towns of the first importance.

It is, therefore, confidently believed, that of all the plans for reducing the expense of carriage which have been contemplated, the Kent Railway will be the most profitable to the shareholders, and the most beneficial to the county and to the public at large. It possesses great and peculiar advantages. The returns will not be delayed, as is usual in similar undertakings, until the whole line of communication is complete, but will commence as soon as the railway reaches Woolwich, and will become very great indeed when it extends thirteen miles further to Gravesend. Interfering with no vested interests, the Kentish Railway will probably meet with no obstruction in parliament, and may be expected to receive the countenance and support of government, in consequence of affording a cheaper and more rapid communication with the great naval and military depôts.

This Company will be governed by eighteen London directors, who are empowered to add to their number, twelve gentlemen selected from the County of Kent, whose names will appear in a short time; and who will have the right of attending, when convenient, at the meetings of the directors in London, and of voting thereat. The capital of the Company is £1,000,000, consisting of 10,000 shares of £100 each, on which a deposit of £1 has been paid. As early an application to parliament will be made for an act to carry these objects into effect as the number and importance of the prior arrangements will admit. No further call will certainly be made until June next; nor even at that time, unless the act of parliament for establishing the Company shall have been obtained. No future calls will exceed £5 in amount at any one time; and every facility will be given to the shareholders, in the transfer of their shares, and in paying the instalments which will be required.

Any further information can be obtained at the offices of the Company, No. 29, Poultry, where all communications are in future to be addressed.

By order of the Directors,

GEORGE VARLO, Secretary.

London, 29, Poultry,
18th December, 1824.

KENT RAILWAY,

FROM LONDON, OVER THE GREENWICH RAILWAY, VIA DARTFORD,
GRAVESEND, STROOD, ROCHESTER, CHATHAM, SITTINGBOURNE,
FAVERSHAM, AND CANTERBURY, TO RAMSGATE, WITH BRANCHES
TO MAIDSTONE, SHEERNESS, SANDWICH AND DEAL.

CAPITAL—£2,000,000, in 40,000 Shares of £50 each.

DEPOSIT—£2 per Share.

PROVISIONAL DIRECTORS.

Lieut. Col. Sir A. Leith Hay, K.C.C.S. M.P.
Peter Hesketh Fleetwood, Esq. M.P.
William Pinney, Esq. M.P.
George Robert Rowe, Esq. M.D.
Owen T. Alger, Esq.
William Borradaile, Esq.
John Brothers, Esq.
Edward Hughes, Esq.
George Money, Esq.
Robert Page, Esq.
Charles Perkins, Esq.
Thomas Phillpotts, Esq.
Rowan Ronald, Esq.
Lieut. Col. Skerrett
Henry Short, Esq.
John Rodway Stock, Esq.
John Twells, Esq.
Lieut. Col. Utterton
George Walter, Esq.
John Yates, Esq.

BANKERS—Messrs. Spooner, Attwoods, & Co.

STANDING COUNSEL—Benjamin Rotch, Esq.

SOLICITORS—James Vallance, Esq. ; A. H. Macdougall, Esq.

SECRETARIES—William Green, Esq. ; Colin Smith, Esq.

The provisional directors feel it necessary to inform the subscribers that they have deemed it advisable to alter the terminus of the proposed railway from Dover to Ramsgate. The line will pass through Rochester, Canterbury, and other large towns in the county of Kent, and thus connect the metropolis with Ramsgate in a manner most advantageous to the public.

The opinion of a committee of the House of Commons on the proposed line is fully expressed in their report to the house, which states that "It appears to be a line which, as connecting the port of Ramsgate and other large towns in the county of Kent with London, and showing public advantages, may, for such purposes, entitle it to consideration."

On this suggestion, the directors have, after mature deliberation, resolved to make Ramsgate the terminus of their line ; and they do so, under a firm conviction, that its growing importance as a harbour, and

the ready access which is from thence afforded to a wide range of the opposite coasts of France and the Netherlands, amply entitle it to participate, thus prominently, in the improved system of communication now in course of adoption throughout the country.

In other respects the proposed enterprise presents no material variation from the plan originally submitted to the public. Running through a cultivated and densely-peopled country, embracing in its course the government depôt at Chatham, and communicating, by branches, with the towns of Maidstone, Sheerness, Sandwich, and Deal, its advantages, as well in a national as in a commercial point of view, are too obvious to require comment; while the degree of local estimation in which it is held may be collected from the subjoined list of provincial committees, formed expressly to support it.

As an investment for capital, the directors conceive that this undertaking may vie with any similar project; for when it is borne in mind that the transit of passengers has been proved before a committee of the House of Commons to be the most lucrative branch of railway revenue, and that, excluding all other modes of conveyance, upwards of *nine hundred thousand* individuals passed, during last year, *by water*, between London, Gravesend, Margate, and Ramsgate *alone*, some idea may be formed of the extent to which returns may fairly be expected to repay the construction of a railroad through districts already abounding in every description of traffic which an increased facility of intercourse is calculated to augment.

The capital required to carry into effect this great national work, is estimated at two millions sterling, the greater part of which has been provided by the arrangement under which the property and interest of the late London and Gravesend and London and Dover Companies have been transferred to the present enterprise. It remains for the directors, therefore, only to add, that Mr. James Walker having undertaken to complete all the surveys, the subscribers may confide in the selection of the most eligible line, and in the establishment of a case for the ensuing session of parliament, presenting in every respect, the strongest claims to legislative protection and support.

PROVINCIAL COMMITTEES.

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„ Alexander	„ Taylor
„ Brown	„ Breakspear
„ B. Smith	„ Franks
SOLICITOR—Robert Suter, Esq.	

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„ Thomas S. Burt	„ John Wright
„ Jabez Edwards	„ Matthew Finch
„ James Longer	„ Samuel Noble
„ Alexander Blest	„ J. S. Turner
„ James Hubbard	„ Thomas Aslin

SOLICITOR—William Nokes, Esq.

DARTFORD.

SOLICITOR—Thomas Broadley Fooks, Esq.

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William Eagle, Esq.		Adam Park, Esq.
John Smith, Esq.		James Harmer, Esq. Alderman

SOLICITOR—John Matthews, Esq.

BANKERS—Messrs. Scott, Hayward, and Co.

ROCHESTER AND CHATHAM

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William Browne, Esq. (Chalk.)		„ John P. T. Rowe
Capt. T. Baker		„ John Lock
Mr. Bentley		„ Samuel Newton
„ W. H. Nicholson	|	„ William Payne
„ Walter Hills	|	„ William Stunt, (Higham)
„ Friend Hoar	|	„ James Edwards
„ Michael Lock	|	„ John Fisher
„ Edward Wickham	|	„ John Rose Baker, (Chalk.)
„ William Gooding		„ J. G. Bryant

SOLICITOR—Henry Prentis, Esq.

BANKERS—Messrs. Day and Sons

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„ John Gorham		„ Lewis Shrubsole
„ Arthur Kitt		„ Thomas Webb
Mr. Francis Venable		

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W. C. Fairman, Esq.		„ D. T. Alston
R. Hinde, Esq.		„ C. Smith
Rev. G. Simpson		„ J. Smith
Mr. J. Lake		„ T. T. Vallance
„ William Gascoyne		„ S. W. Shotter
Mr. H. Blaxland		

SOLICITOR—Mr. J. Hinde

BANKERS—Messrs. Vallance and Son

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John Perkins, Esq. Alderman		William Rigden, Esq. Alderman
E. J. Hilton, Esq.		Mr. R. G. Stone
Thomas Barnes, Esq.		„ George Murton
BANKERS—Messrs. Wreight and Hilton		

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George Neame, Esq. Mayor

Henry Cooper, Esq. Alderman	William Masters, Esq. Alderman
Richard Halford, Esq.	Mr. J. Abbott
O. Snoulten, Esq.	„ George Ash
J. S. Browne, Esq.	„ Beioley
Mr. S. Wright	„ William Philpott
„ Wilkinson	„ Jennings
„ Ridout	„ H. Clements

BANKERS—Messrs. Halford, Baldock, and Snoulten; Messrs. Hammond, Plumtree, Parker and Furley

SOLICITOR—Thomas Wilkinson, Esq.

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Richard Harrison, Esq.	J. D. Stewart, Esq. R.N.
William Henry Rolfe, Esq.	James Dorman, Esq.

SOLICITORS—Messrs. Surrage and Emmerson

BANKERS—Messrs. Emmerson, Hodgson, and Co.

RAMSGATE.

Capt. Hodges	Mr. Thomas Sparks
B. Bourdillon, Esq.	„ Richard Page
Richard Tomson, Esq.	„ Thomas Rammel
Mr. Samuel Sharwood	„ Robert Townley

BANKERS—Messrs. Austen and Son; Messrs. Burgess and Son

SOLICITOR—John Mercer, Jun., Esq.

**THE DIRECT LONDON AND BRIGHTON RAILWAY,
WITH A BRANCH TO SHOREHAM.**

CAPITAL—£800,000, in 16,000 Shares of £50 each.

DEPOSIT—£2 per Share.

PROVISIONAL COMMITTEE.

The Right Hon. the Earl Somers
 The Right Hon. Lord Monson
 The Right Hon. Lord Eastnor, M.P.
 Sir William Jolliffe, Bart.
 Sir Keith Jackson, Bart.
 Grant Allan, Jun., Esq.
 Edward Hill Creasy, Esq.
 Charles Sedgfield Crowley, Esq.
 John Harman, Esq.
 Archibald Little, Esq.
 Thomas Neale, Esq.

Robert Sutton, Jun., Esq.
Jonathan Thorp, Esq.
Matthias Wilks, Esq.
Joseph Brown Wilks, Esq.

ENGINEER—Sir John Rennie

BANKERS.

London Messrs. Hankey and Co., Fenchurch Street
Brighton Messrs. Hall, West, Borrer, and Hall
Croydon and Reigate . Messrs. Nash and Neale
Lewes Messrs. Hurley and Co.

STANDING COUNSEL—David Pollock, Esq., K.C.

SOLICITORS.

London Messrs. Sweet and Sutton, Basinghall Street
Brighton Mr. Arthur Briggs and Mr. Henry Faithful

AGENTS.

Croydon and Reigate . . Mr. Thomas Hart
Lewes Messrs. Kell and Son

SECRETARY—Mr. Dean

Various reports have been industriously circulated that this line of railway to Brighton, which is the shortest and the direct one, with a branch to Shoreham, as originally projected by Sir John Rennie, has been abandoned. So far from these reports being true, all the requisite surveys, plans, sections, and books of reference have been made, and duly deposited, and steps taken in order that application for an act may be made to parliament early in the ensuing session.

The advantages of the direct line—which will pass through Croydon and Merstham, and near to Reigate, Crawley, and Cuckfield, to Brighton and Shoreham—over the Dorking line, are the following:—

First.—The reduction of nearly nine miles distance from London to Brighton.

Second.—The small number of the curves, and those being of a larger radius.

Third.—The reduction of the annual expense of the working power, at the same time requiring no assisting power, the steepest gradient being only 1 in 268.

Fourth.—The saving of time in the performance of the journey.

Fifth.—The saving to the public in the transit of passengers and goods, in consequence of the line being shorter than the Dorking line.

Sixth.—The favourable nature of the soil for the cuttings and consolidation of the embankments, and the consequent yearly saving of expense in maintaining them.

Seventh.—The comparative low value of the land through which the direct line passes.

Eighth.—No parks or domains will be interfered with.

Ninth.—The saving of nearly £4,500 per annum to maintain rails and works in general, for the reduced distance to Brighton.

Tenth.—The approach of the line to Lewes—the sea-port of Newhaven, and Tunbridge-Wells—and the facility of extending it to other towns and places on the east, as well as to Shoreham, Worthing,

Horsham, Dorking, Arundel, Chichester, Portsmouth, and other towns and places on the west.

Eleventh.—The reduction of the cost of the direct line to £750,000, by adopting the Croydon and Greenwich line as the London terminus.

The deposit of £2 per share is deemed amply sufficient to meet all parliamentary and incidental expenses which may be incurred in promoting the success of the undertaking.

All applications to be by letter (post-paid) addressed to either of the solicitors, or agents.

London, February 1st, 1836.

FORM OF APPLICATION FOR SHARES.

TO THE PROVISIONAL COMMITTEE OF THE DIRECT LONDON AND BRIGHTON RAILWAY.

Gentlemen—I request to become a subscriber for £50 shares in this undertaking, and agree to take such shares as shall be allotted to me, and to pay the deposit thereon of £2 per share in conformity with the prospectus dated 1st February, 1836; and I also agree to execute the parliamentary contract and subscribers' agreement when I shall receive notice so to do.

I am,
Gentlemen,

Your obedient servant,

[The Christian and Surname, with Date and Address, to be signed by the Applicant.]

STRATFORD AND MORETON RAILWAY.

THIS is the original prospectus of one of the earliest minor railways:—

Halford Bridge, September 23rd, 1820.

The committee of subscribers to the proposed railway, or tram-road, from Stratford-on-Avon to Moreton-in-Marsh, with a branch to Shipston-on-Stour, having determined on the lines which they conceive fit to be adopted, different from the line before proposed, from Stratford to near Illmington, offer to the public their view of the advantages to be derived from the undertaking to the several proprietors and occupiers, who may be supplied with articles by means of the railway or tram-road, or who may send articles by the road to Stratford. They apprehend that coals and lime will be the most important articles carried from Stratford, on the railway or tram-road, and that corn will be the principal article of back carriage.

The present price of the best coals at Stratford is about 18s. per ton. It is estimated that the expense of carriage, by the proposed railway from Stratford to the first dépôt at Alderminster, will be 2s. 1d. per ton; —from Stratford to the second dépôt, near Newbold, 2s. 11d. per ton; —from Stratford to the third dépôt, near Illmington, 3s. 4d. per ton; —from Stratford to the fourth dépôt, at the Cross Hands, on the Ship-

ston and Ebrington road, 5s. per ton; and from Stratford to the fifth depôt, at Moreton-in-Marsh, 6s. 9½d. per ton. The carriage from Stratford, by the branch road to Shipston, will be 4s. 9½d. per ton.

The present price of lime at Stratford is about 2s. 4d. per quarter, and five quarters make a ton. From this estimate the persons who may be supplied with coals and lime from any of these depôts, may calculate the rates at which they may be so supplied for the use of their own respective properties.

The rates of tonnage for coals and lime are estimated at 2½d. per ton per mile of tonnage, and 2½d. per ton per mile for hauling, making 5d. per ton per mile for the whole.

The rates upon goods from Stratford will be 6½d. per ton per mile, as they occupy more room, and require more care than coals and lime. Corn, which will be the principal back carriage, will be sent from Moreton, Shipston, and the several other depôts, to Stratford, at the same rate of carriage as coals and lime will be carried from Stratford.

The lines of the proposed railway from Stratford to Moreton, and of the branch to Shipston, are delineated on the annexed plan, and the several depôts are marked on the said plan.

The estimate made by Mr. Thomas Baylis, of the whole expense of carrying the railway from Stratford to Moreton, with the branch to Shipston, as now proposed, is under £40,000, presuming the purchase of land, expenses of obtaining the act of parliament, and contingent expenses, will not exceed £6,500; and he has offered to contract to complete the whole of the works, which may be under his direction, for the difference, and to give satisfactory security for performing that engagement.

Under these circumstances, the committee have determined to offer the subject to the consideration of the public, and to solicit subscriptions in addition to the sums already subscribed, for the purpose of raising the full sum of £40,000, by 800 shares of £50 each.

The tonnage on the proposed railway, according to a moderate estimate, will afford ample interest for the above sum, in the first year after the works shall be completed, with a probability of progressive improvement.

Subscription books are opened at the banks of Messrs. Cripps, Stow-on-the-Wold; Messrs. Whitehead & Co., Chipping Norton; Messrs. Cobb & Co., Shipston-on-Stour; Messrs. Oldaker & Co., Stratford-on-Avon; and Messrs. Galton and James, Birmingham.

REDESDALE, Chairman.

GREAT LEINSTER AND MUNSTER RAILWAY.

FIRST EXTENSION TERMINATING IN THE CITY OF KILKENNY. LENGTH, SEVENTY-THREE ENGLISH MILES. TIME FROM DUBLIN TO KILKENNY—3 HOURS.

CAPITAL—£800,000, to be raised in 8,000 Shares of £100 each.

The Subscriber to be called on only for £50 per share. The remaining moiety to be borrowed from government.

No call to exceed 5 per cent., and three months to intervene between each call.

No Shareholder to be liable beyond the amount of his subscription.

GENERAL COMMITTEE.

<p>The Marquis of Ormonde The Marquis of Headfort The Earl of Ossory The Lord Downes The Hon. J. Ponsonby, M.P. The Hon. P. Butler, M.P. Sir John Burke, Bart. Sir Thomas Esmonde, Bart. Sir Edward H. Walshe, Bart. Daniel O'Connell, Esq., M.P. Edward S. Ruthven, Esq. M.P. George Evans, Esq. M.P. Chris. Fitzsimon, Esq. M.P. J. Power, Esq. M.P. W. F. Finn, Esq. M.P. Richard Sullivan, Esq. M.P. N. A. Vigors, Esq. Robert Bourke, Esq. Hugh Barton, Esq. Robert Archibold, Esq. J. W. Digby, Esq. George La Touche, Esq. Ponsonby Barker, Esq.</p>	<p>Alex. Mansfield, Esq. N. P. Leader, Esq. Edward Clements, Esq. Patrick Costelloe, Esq. Robert Fowler, Esq. Peter Gale, Esq. Francis White, Esq. B. B. Smith, Esq. Thomas Eyre Powell, Esq. Edward M'Donnell, Esq. William C. Cooper, Esq. J. C. Hickson, Esq. John Alexander, Esq. Thomas E. Lalor, Esq. Philip Bagnal, Esq. Simeon Clarke, Esq. William Willans, Esq. Ignatius Callaghan, Esq. Thomas Mooney, Esq. Laurence Finn, Esq. Charles Putland, Esq. Henry Ryan, Esq.</p>
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KILKENNY COMMITTEE.

<p>The High Sheriff The Mayor The Marquis of Ormonde The Earl of Carrick The Hon. John Ponsonby The Hon. Henry Walker The Hon. P. Butler, M.P. Sir Josiah C. Coghill, Bart. Richard Sullivan, Esq. M.P. Thomas Neville, Esq.</p>	<p>Harvey de Montmorency, Esq. J. K. Aylward, Esq. Wm. de Montmorency, Esq. Henry Wemys, Esq. Clayton Bayly, Esq. Joseph Green, Esq. Henry Lloyd, Esq. John P. Ryan, Esq. Henry Ryan, Esq. Edmund Smithwick, Esq.</p>
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Lundy E. Foot, Esq.	Sydenham Davis, Esq.
W. Morris Reade, Esq.	Robert Owen, Esq.
John M'Craith, Esq.	Redmond Reade, Esq.
Harvey Devereux, Esq.	John Walshe, Esq.
Henry Gore, Esq.	John Flood, Esq.
William Bayley, Esq.	James M'Creery, Esq.
Samuel Crosthwaite, Esq.	Francis Comerford, Esq.
John Handy, Esq.	Henry Maxwell, Esq.
Daniel Cormick, Esq.	R. Smithwick, Esq., Hon. Sec.

BANKERS—The Provincial Bank of Ireland ; the Hibernian Bank ; John David La Touche and Co ; the Agricultural Bank of Ireland ; Messrs. Wright and Co. London ; Messrs. Spooner and Attwood, London

TRUSTEES—Hugh Barton, Esq. Straffan ; George La Touche, Esq., Fitzwilliam-square ; John Ennis, Esq., Roebuck

ENGINEERS—John Macneil, F.R.A.S., M.R.I.A. ; and David Aher, Esqrs.

SOLICITORS—Matthew Barrington, Esq. Dublin ; Messrs. Fladgate, Young, and Jackson, London

SECRETARY—P. J. Harte, Esq.

ABSTRACT.

	£	s.	d.
Passengers - - - - -	93,530	11	0
Mails - - - - -	6,311	9	2
Parcels - - - - -	5,214	5	8
Live cattle - - - - -	10,000	0	0
Merchandise - - - - -	31,548	4	4
Coal and culm - - - - -	5,000	0	0
	<hr/>		
	151,604	10	2
Annual expenditure, £1,000 per mile, say -	73,604	10	2
	<hr/>		
Nett annual income, 9½ per cent. -	78,000	0	0
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Government lending one half, at three per cent. interest, and two per cent. for repayment of principal, would increase the annual dividend to nearly fifteen per cent. (as suggested in the report of the committee of the House of Commons on "Public Works.")

PROSPECTUS.

The committee having, in compliance with the standing orders of the House of Commons, taken the steps necessary to enable them to obtain an act of parliament to incorporate the Company in the ensuing session, publish with this prospectus a general map of that portion of Ireland affected by this line of railway.

In a former prospectus an outline was given of the advantages to be derived from the construction of a railway extending from the metropolis to the Province of Munster.

To secure those advantages it was thought most advisable, notwith-

standing the many inducements to do otherwise, to confine the undertaking strictly within those moderate limits which involve no outlay of capital likely to startle the prudent speculator, and which, although a part of a great undertaking, is perfect in itself, affording every reasonable prospect of remunerative return, and tending by its success to advance the further important objects proposed.

That prospectus was, in the month of March, 1835, laid before the grand juries of the several counties traversed or approached by the proposed line, and they all uniformly adopted the principle—

“That railways extending from the metropolis to the Province of Munster would afford a powerful stimulus to trade, commerce, and agriculture, and consequently tend to advance the general interests of Ireland.”

The same views were entertained subsequently at a most important and influential meeting, held in Dublin on the 14th of May last, at which the Most Noble the Marquis of Headfort presided, and a committee, comprising noblemen and gentlemen from the Provinces of Leinster, Munster, and Connaught, was appointed,

“For the purpose of inquiring into and reporting on the best line of railway communication between the City of Dublin and the southern and western districts of Ireland.”

After a prolonged investigation, that committee (whose report is already before the public) unanimously decided,

“That the line, as surveyed by David Aber, Esq., was a most eligible line, being for $33\frac{1}{2}$ miles from its commencement an advantageous main trunk for a railway from Dublin to the Cities of Kilkenny, Waterford, Cork, Limerick, and the harbours of Galway and Valentia.”

They further reported—

“That, without adverting to the proposed extensions beyond Kilkenny, they did not hesitate to recommend the adoption of the line to Kilkenny, from the peculiar facilities of execution which presented themselves, from the immediate return it promised to yield to the capitalist, and its capability of future extension.”

A careful inquiry having been instituted into the probable revenue to be derived therefrom, the results were so satisfactory as to induce them to recommend the formation of a Company to carry the proposed measure into effect.

A meeting was then held in Kilkenny—the High Sheriff of the county in the chair—when resolutions were passed, and subscriptions entered into, by the landed proprietors and mercantile interests of that county and city in furtherance of this object. And on the completion of the detailed survey, another meeting was held in Kilkenny, the Earl of Ossory in the chair, at which, after confirming the resolutions of the former meeting, a sub-committee was appointed to carry them more fully into effect.

The managing committee have much satisfaction in stating, that, at both those meetings, resolutions of thanks were unanimously passed to the several landed proprietors, for their liberality in offering whatever portion of their estates should be required for the railway; and the committee have the gratification to add, that in more than one instance this offer has amounted to above three miles of the line.

There is another point to which the attention of the public should be particularly directed. In English railways the occupants assenting have rarely exceeded those dissenting by a greater majority than three to one; whilst on this line the inquiries of the committee have arrived at the following gratifying results:—assents, 401; dissents, 16; neuter, 6; not ascertained, although frequent applications have been made, 56; conditional, 1; and along a line of seventy-three miles there are but two instances of landed proprietors dissenting.

The accompanying map will prove that the present line is the commencement of a great and national undertaking, pointing out its future probable extensions, and showing that the first thirty-three miles and a half will be a main trunk, embracing the trade and intercourse of the metropolis with one-half of Ireland, from whence it divides itself into two great branches—the one through Kilkenny towards Cork and the south, and the other towards Limerick and the west; but so diverging as not to interfere with the trade and intercourse of each other. Both those lines will run through rich districts, already affording immense trade and intercourse, and avoiding the error committed by our canals in passing through the great central bog district, under the fallacious hope that they would thereby create a profitable trade and intercourse in a district of country presenting so many natural impediments.

The country to be traversed by these lines is peculiarly favourable for the construction of railways, the line from Dublin to Limerick, by the main trunk, not exceeding the length of the present mail-coach road. From Roscrea a line would branch to Galway, involving some trifling circuitry (less than half an hour in point of time), but leading through richer and more productive districts, and saving, in cost of execution, upwards of half a million sterling, as compared with the shortest line that could be projected from Dublin to Galway.

The southern or Cork line having proceeded as far as Carlow, throws out a branch thence to the important town of Wexford, being the only route by which that county can be approached by a railway from the metropolis, owing to the mountainous character of the County of Wicklow. This branch, proceeding along the vales of the Burrin and Slaney, would open a field for the more extensive introduction of lime, in which at present a considerable trade is carried on, although brought by land carriage from Carlow to a distance frequently exceeding fifty miles. This trade, to the detriment of the agriculturist, is now limited to the summer months; whilst large tracts of improveable land are left uncultivated and unproductive in this great county, for want of an increased supply of that necessary article.

From Kilkenny, the line admits of direct extension to the harbours of Cork, Bearhaven, Valentia, and Waterford, to the last of which a railway has been already surveyed by Richard Griffith, Esq., government engineer.

The committee confidently refer to the following satisfactory report of their engineers:—

ENGINEERS' REPORT.

The proposed line of railway from the City of Dublin to the City of Kilkenny, a distance of seventy-three miles forty-four chains, having

been viewed and examined by us, we are enabled jointly to lay before the public the few following observations ; first premising, that the advantages of railway conveyance generally, being now so fully established in different parts of the globe, it is deemed superfluous to advert to them. Assuming, then, that the people of Ireland, impressed with the importance of railways in the improvement of other countries, are desirous to apply this valuable result of human ingenuity to their own, the advantages or peculiarities of this line alone are taken into consideration, and where necessary, a slight comparison made with lines already adopted by the public. The subject may be considered under three distinct heads—its position in the kingdom, its capabilities or facilities of execution, and its levels or inclinations.

The best position for a railway is evidently that most likely to repay the expense of construction ; and this is found in whatever district is most amply furnished with trade, wealth, population, and agricultural produce, provided its levels do not render it impracticable. In referring, therefore, to a map of a country, we must also have reference to these facts and circumstances, otherwise a map by itself would afford but an uncertain and fallacious guide in the selection of a railway. For example, the present line, which would at first appear to enter a very small portion of the country, will be found on examination to command a very great extent of territory, population, and trade, and at a cost inconceivably small. By reference to the original report on this line, published in May, 1835 (the first line of railway ever projected from the metropolis of this kingdom towards its interior), it will be seen that no other level can, with propriety, be adopted from Dublin to the west or south of Ireland, than that running along the vale of the river Liffey, it being the only outlet, south or west of Dublin, for several miles.

The first thirty miles must be considered as the only fit commencement of any line from Dublin to the western coast, including Limerick, &c. The first fifty miles as the only commencement of a line from Dublin to the eastern coast towards Wexford ; and the entire seventy-three and a half as the only commencement of a great line from Dublin to Waterford, Cork, Bearhaven, Bantry-bay, and Valentia. A branch may be taken at Ballyfarmot, near Chapelizod, four miles and a half in length, with a fall of one in 310, crossing the Grand Canal at the tail of the second lock, and proceeding outside the suburbs of Dublin, until it meets the Kingstown Railway near the river Dodder ; thus completing a line from the harbour of Kingstown to the Atlantic, and holding a midland course inland through that large portion of the south of Ireland, at present inaccessible by navigation, being equidistant from the navigable shores of the Shannon on the west, and St. George's Channel on the east.

But in commencing this great national undertaking, it was thought advisable, as this country had never tried the experiment of a mercantile railway, to confine its execution to a portion only at first, beginning at the most useful main trunk, and afterwards extending it directly, or sending out branches laterally, as the increase of trade might demand.

Its peculiar applicability for these purposes, and the selection of Kilkenny as a terminus for the present, have been already pointed out in the report alluded to ; and in drawing a comparison between this line of railway and other great trunk lines in Ireland already approved of, such

difficulty of construction as the Chatmoss on the Liverpool and Manchester line, is not here to be met with, the line not passing through any portions whatever of bog, although sometimes in their neighbourhood; and the enormous cost of tunneling is avoided, there being no tunnel of any kind on the line, the whole being open cast. This is very favourable, as their construction has always been difficult and uncertain, and forms a large item in estimates, from the great allowance necessary to meet contingencies. In England a railway can scarcely be made anywhere without that last though costly resort—a tunnel; which is only an alternative between two great evils—an ascent rendered insurmountable by its steepness, and an excavation rendered impracticable by its cost. In the Great Western line there is, amongst others, one tunnel of a mile and three quarters, at an inclination of one in 107. In the estimate of the London and Birmingham line, the item for tunneling alone is £250,286. In the same estimate, the excavations and embankments amount to £779,000, the quantity of cutting being 12,000,000 cube yards, and embankment 11,000,000; on the Great Western nearly 10,000,000; Southampton, 15,000,000; London and Bristol, by Basingstoke, 24,000,000; while on the Kilkenny line, the whole cutting is little more than 4,000,000 of cube yards, embankment less than three and a half, and of such a nature as to be executed with very little cost—the falling in or slipping of the earth in excavating not occurring here as in most parts of England—a fruitful source of expense as well as danger in that country, and of great delay in the execution of the work. In this line the soil is of such a substance as to prevent these contingencies, being a mixture of indurated clay and gravel, which stands nearly perpendicular in the cuttings; the slopes will therefore admit of being very moderate, and the heights of embankments, and the depths of cutting so trifling, that there can be neither danger nor uncertainty in their execution.

But where the excavation is greatest, and would, under ordinary circumstances, involve much expense, it may here become an actual source of profit. This occurs near Palmerston, in the neighbourhood of Dublin, where the cutting is at an average depth of forty feet in argillaceous limestone, commonly called calp, a valuable stone, of which the public buildings, and all the basement stories of private houses in Dublin and its neighbourhood to a great extent are constructed.

It really is singular, and almost appears incredible, the number of favourable circumstances attending this line. All the materials for its construction and maintenance, except iron alone, are to be had almost without the expense of carriage. A very superior fuel, granite, limestone, flags, building stone, brick-clay, sand, gravel, &c., are one or all to be found at the very surface, or in the neighbourhood, in absolute profusion. There are none of those stupendous viaducts and large bridges met with in almost every railroad in Great Britain. On the whole line there is but one viaduct of importance, which crosses the river Barrow on a good foundation, and in the vicinity of a fine limestone quarry. The Grand Canal is crossed but in two places, and the river Liffey but once, and in each case by a single arch. There is scarcely any land to be purchased except common arable and pasture—no valuable buildings to be taken down—and no ornamental property in

the neighbourhood of cities to be interfered with—an item of great expenditure generally.

Here, then, we have a line of railway, which, taking into account the great abundance of permanent materials, the many facilities everywhere provided by nature, and the total absence of difficulties or obstacles of any kind whatsoever, must surpass, for cheapness of construction, any line of railroad ever yet undertaken in Great Britain. Taking the very outside of the sum required, and leaving ample allowance to meet all possible contingencies, it is with every confidence stated, that the gross sum of £800,000 will be more than sufficient to complete the whole seventy-three miles and a half, including the purchase of land, suitable engines, waggons, &c., &c. The sum to be expended will in fact nearly approach the limit of £10,000 per mile.

We now come to examine the levels, which, when favourably combined with the foregoing, mean cheapness of conveyance—the cost of removing any thing, suppose a person, or a ton of goods, from one place to another, being composed of two elements—first, the interest of the money employed in constructing the road, and next, the expense of procuring and maintaining the moving power, whether animal, locomotive, or stationary.

On viewing the section, the first thing that attracts the observer is, that there is but one summit, or undulation, on the whole line, and but little difference of level (87 feet 6 inches) between the starting point at Dublin and the terminus at Kilkenny: the next, that more than one-half the whole line is a perfect level.

To gain this summit (235 feet 6 inches high), the line ascends for twenty-six miles and three quarters, which (with the exception of two levels, one a mile and thirty-five chains in length, the other three miles), is on a slope uniformly of one in 500, or ten feet six inches and a half to a mile; and there is no greater slope on the whole line—an important point when treating of velocity or cheapness of conveyance. There are on the London and Birmingham line six summits, with inclinations of one in 330. On the Great Western, there is an inclination of one in 107; Manchester and Liverpool, one in 90; Dublin and Kingstown, one in 440; Southampton, one in 330.

The materials here are abundant, the rocks, after leaving the argillaceous limestone district near Sallins, being composed of clay-slate, and siliceous sandstone—a stone fit for building, and easily obtained. From the summit the line descends at a fall of one in 500 for eleven miles and seven-eighths, passing close to the town of Athy, from whence it proceeds through a rich limestone country, on a level of thirty-one miles and three quarters without interruption, having on its left the great quarries of limestone and granite, and the town of Carlow, which can be connected by a short branch, and on its right the well-known flag quarries; and passing within 200 yards of the eastern verge of the Kilkenny coal district, proceeds to Leighlin-bridge and Gowran, and terminates, after a descent of two miles, of one in 528, and a level of one mile fourteen chains, close to the city of Kilkenny, and within one mile of the celebrated black marble quarries. The levels, then, are as follow, viz. :—

			Miles.	Chains.
1 inclination of 1 in 528	..	length	2	0
4 _____ of 1 in 500	..	_____	34	15
4 levels	..	_____	37	29
Total . . .			73	44

Here, where we have but one summit, and the greatest slope only one in 500, it may be supposed the loss of power will be very trifling, especially when it is considered that though the loss on a slope of one in 240 is one half, yet that of one in 500 is very small; and it is further to be observed, on this line no breaks will be necessary, nor will the engines overrun themselves or require assistant engines up an incline; and hence a great saving will be effected in the annual expense of repairs, wear and tear of machinery, rails, &c. With regard to the velocity or time of transit, a short table is subjoined, which, on the supposition of an engine drawing twenty tons at the rate of twenty miles per hour on a level, gives the different rates and times of moving all along the different planes between both extremities. If the whole seventy-three miles and a half had been a perfect level, the train would be conveyed from one end to the other in 220 minutes; but something of power being lost on the inclination, the time is, from Dublin to Kilkenny, 222 minutes; from Kilkenny to Dublin, 214; average 218 minutes, being two minutes less than that required on a level plane!

DISTANCES.		RATES OF INCLINATION.	VELOCITY IN MILES PER HOUR ON EACH PLANE.		TIME ON EACH PLANE.	
Miles.	Chains.		From Dublin to Kilkenny.	From Kilkenny to Dublin.	From Dublin to Kilkenny.	From Kilkenny to Dublin.
9	0	Rise, 1 in 500	17...40	23...51	MIN. 31'04	MIN. 22'97
1	35	Level,	20... 0	20... 0	4'31	4'31
7	5	Rise, 1 in 500	17...40	23.. 51	24'23	18'02
3	0	Level,	20... 0	20... 0	9'00	9'00
6	20	Rise, 1 in 500	17...40	23.. 51	21'44	15'52
11	70	Fall, 1 in 500	23...51	17...40	29'03	39'22
31	60	Level,	20... 0	20... 0	95'25	95'25
2	0	Fall, 1 in 528	23...30	17...52	5'15	6'85
1	14	Level,	20... 0	20... 0	3'52	3'52
					222'97	214'66
					H. M. S. 3 42 58	H. M. S. 3 34 40
Total time						

There cannot be a closer test of the excellence of the levels in the proposed section than the foregoing calculation. Engines may, however,

be used of ten times that power, and their power be distributed partly upon the velocity, partly upon the weight. On the Manchester and Liverpool Railway, where there is an inclination of one in 96, the Sampson engine drew a gross weight of 151 tons in thirty waggons, the whole distance of the line, in two hours and thirty-four minutes, which included twelve minutes of stoppages.

There is another advantage possessed by this line of road, which few, if any line, besides itself, can have. Close to the line there is a species of anthracite fuel, called Kilkenny or stone coal, which, from being known to possess properties highly valuable for locomotive purposes, often attracted scientific observation; but it was found so slow in igniting, that it was as often abandoned. Its properties were, that when ignited it imparted much more heat than the same quantity of any other coal, and also that it remained ignited without sensible reduction for a very long period of time. In making experiments lately it was found to possess another property still greater—namely, that no matter to what heat raised, it never became fused. An admixture, in certain proportions, with bituminous coal, obviates the defect of sluggish ignition; while the strong blast or rapid supply of air in the locomotive furnaces, which weakens the fire by fusing the bituminous coal, only adds to the great power of this fuel. It remains for subsequent experiments to prove whether it may not be practicable, by means of the unprecedented power of this admixture of carbonaceous and bituminous coal, to increase the power of locomotive engines to an extent hitherto unknown.

We have given our opinions coupled with the report of last May, (already before the public) in favour of the adoption of this line of railway. We have shown that from its position it is not a partial line, but a portion only of a great work, although perfect for the present. That it is eligible besides, from its extraordinary cheapness, and its still more extraordinary levels; for while this line shows one single level of thirty-one miles and three quarters, no railroad in Great Britain can show one of four miles. We have no hesitation now in stating the conviction on our minds to be, that this proposed line of railroad, if brought into operation, will confer permanent and almost incalculable benefit upon the community at large, as well as those more immediately connected with it.

Railway Office, 3, College-green,
January 2nd, 1836.

JOHN MACNEILL,
DAVID AHERN.

ANNUAL REVENUE.

No part of the subject has been more minutely investigated by the committee than that relating to the income to be derived from this great work, convinced that upon the result of their investigations must depend the support which this important undertaking will receive from the capitalist. Individuals may subscribe on national grounds alone; but the great mass of subscribers look to the revenue to be derived from the undertaking, before they invest their money. The committee, therefore, having inquired into the best mode of obtaining

accurate results, have followed, as a fair and safe basis whereon to ground their calculations, the course adopted by the different companies that preceded them, conceiving that a mode of calculation which had undergone the scrutiny and received the sanction of committees of both houses of parliament, could admit of no possible objection, and might therefore be relied on with every degree of confidence.

Passengers are supposed to diverge from that point of the line by which the greatest saving of time will be effected in reaching their destinations, without reference to circuitry. On this principle it is evident that the line to Kilkenny must command the intercourse of the metropolis with the entire of the Province of Munster, and the south-eastern portion of Leinster; districts containing 3,000,000 inhabitants. In order to explain more clearly the sources of income, the several items are arranged under their respective heads, as follows:—

Passengers.—There are at present, daily, upon the great southern road, twenty-one public carriages, to which add one mail and one day coach, to Wexford; total, twenty-three, consisting of seventeen mails and stage coaches, and six caravans or omnibuses, performing two hundred and eighty-four journies weekly. Mails, taken at the average of five passengers (though the Dublin mails carry one more than those leaving London), stage coaches, nine; caravans or omnibuses, twelve (this description of carriage conveys, inside and outside, upwards of twenty, and are generally full). These conveyances carry 2,466 passengers weekly, who will travel upon the railway 123,044 miles per week, or, 6,415,865 miles per annum, which, taken at only 1½d. per mile, makes a gross sum of £40,099 3s. 1½d.

Posting.—Without taking into account the conveyance of private carriages, horses, &c., along the railroad, which it is presumed will yet form a considerable item, the passengers alone are considered. These, taking for the whole line an average of three pair of post-horses, daily, in and out of Dublin, gives 1,323 miles per diem, which, at 1½d. per mile, amounts to £3,018 2s. 4½d. per annum.

Passengers by Short Stages, viz., to and from Lucan, Leixlip, Celbridge, &c., 100 passengers in and out of Dublin daily, averaging 1s. per head, gives an income of £3,650 per annum.

The amount of the foregoing three items may be considered as income derivable from passengers, in each of which particular care was taken to avoid extreme statements. The averages are calculated at the lowest, and the price of conveyance of passengers (1½d. per mile) is believed to be without precedent in a railroad prospectus.

The principle has now been fully established and approved of by committees of both houses of parliament, that all railroads at least double the actual intercourse. The adoption of this admitted principle shows an income of £93,530 11s. from passengers alone. In some of the railroads already constructed, the increase of intercourse is proved to have been thirty-fold; and in none less than three-fold.

Grand Canal.—Passengers by canal average considerably more than 1,000 weekly; and although the committee deem that it will be the interest as well of the canal company as the passengers, that the railway should be adopted as far as Sallins, thereby avoiding the great delay occasioned by the number of locks between Dublin and that point,

which would be reached by railway in one-fifth of the time, thus giving greater effect to the system of light boats recently established—still, the revenue from this source being only probable, it is not taken into account.

Conveyance of Mails.—This item shows a revenue of £6,311 9s. 2d. per annum, at 5d. per mile, which includes the Cork, Waterford, Limerick, and Kilkenny mails, for the entire length of the line, and the Wexford as far as Carlow.

Parcels.—Seventeen mail and stage coaches, taken at 200 journeys per week, allowing 10s. average per journey for carriage of parcels, gives an annual revenue of £5,214 5s. 8d.

Live Cattle.—The public can form an estimate of the very great importance of such a trade, by the following extracts from the correspondence received by the committee from an influential and wealthy landowner in the County Kilkenny:—

“It is almost unnecessary to remark that a fat animal, travelling for six days in warm weather, must lose a certain portion of its meat or substance, and condition. I consider that a wether of about 25lb. a quarter, would inevitably lose 2lb. a quarter, or at the rate of 8lb. a carcass; this, at an average of 5d. per pound, produces a loss of 3s. 4d. per sheep; but if mutton should be 7d. or 8d. per pound, the loss will of course be much increased—the quality of the mutton must also suffer from the irritation and fatigue produced by so long a journey. I therefore consider that the butcher and consumer must be benefited by the good order and condition in which the animal must arrive at market by the rapid medium of railroad.

“With regard to fat cows and oxen, they are usually from four to five days on the road. Cows of from 5 to 6 cwt. may be said generally, if well and carefully driven, not to lose more than 28lb. a beast on their journey; but perhaps large and heavy cattle lose in increased ratio—the quality and wholesomeness of their beef suffers as in mutton.

“There are other advantages likely to result from a quick transit: one is, being enabled to meet a market in a few hours after you may have had advice of an encouraging nature.”

These extracts will suffice to explain generally the value of a railway to the agriculturist, and the profit likely to accrue from the conveyance of live stock, especially in Ireland, where so much of its rich surface is occupied in grazing. This item is taken at the gross sum of £10,000, being less than one-fifteenth of that assumed by the Eastern Counties Railway (£157,053), and one-tenth that of the London and Birmingham (*viz.*, £102,266.)

Merchandise.—By returns before the committee taken at different periods, it appears that there passes per week upon the Great Southern Road:—Scotch drays 408, carts 383, cars 405, farming and local cars not included. Assuming them to carry only one ton each, it gives an amount of 1,197 tons: taking this at only one-fourth, (say 300 tons) per week, for the entire distance at 3d. per ton per mile, gives a revenue of £14,274 2s. 2d. per annum for land carriage alone: an equal tonnage may fairly be taken for light and valuable goods at present carried by canal. The entire intercourse between Kilkenny and the river Barrow (20,000 tons annually), whether to Waterford or Dublin,

must pass along the railway to the neighbourhood of Leighlin-bridge; this, at 3s. per ton, gives £3,000 annually. These items taken together form the total amount of £31,548 4s. 4d. annually for merchandise.

Coal.—From the report of Richard Griffith, Esq., on the Leinster coal district, it appears that 170,000 tons of coal and culm are raised annually in the vicinity of the railway: less than one-eighth is assumed to be carried along the line, at the rate of 5s. per ton: this on 20,000 tons, gives an income of £5,000 per annum. Recent experiments made by John Macneill, Esq., (one of the company's engineers,) lead to the conclusion, that this coal will be most valuable as a fuel for locomotive engines.

Curragh of Kildare.—This item being merely speculative, is altogether omitted; but the committee feel satisfied that a considerable revenue may be expected from this source. The four great meetings annually held at the Curragh, are now rarely attended but by the gentry of the immediate neighbourhood; whilst every minor race-course in the vicinity of Dublin,* is resorted to by thousands, whom, it is fair to presume, would prefer visiting the first race-course in the kingdom, where it is within a reasonable distance. The railway will render it little more than an hour's excursion from either extremity of the line.

JAMAICA RAILWAY.

This is a prospectus of the earliest Jamaica Railway issued in 1836, and which was stopped by the panic in 1838:—

JAMAICA RAILWAY.

CAPITAL—£1,000,000 sterling, in 10,000 Shares of £100 each.

One moiety to be reserved for distribution in the West Indies.

Names of Directors and Officers will be inserted in a future Prospectus.

This association is for the purpose of forming a railway from Kingston to Spanish Town, and from thence to Montego Bay, with a branch to Savannah la Mar.

The undertaking promises to be of the utmost utility to this valuable colony. The distance from Kingston, the commercial capital, to Spanish Town, the seat of government, is thirteen miles; and there are usually three or four hundred daily passengers between these places. From Kingston to Montego Bay passengers generally go by sea, a voyage of seven days, the journey by land being seldom undertaken by Europeans on account of the badness of the road, which is very circuitous, and skirts the north coast of the island. The distance is about one hundred and sixteen miles; occupies four days; is usually

* At the Kingstown Races, which continued but two days, the Kingstown Railway Company received £500 beyond their ordinary receipts.

performed on horseback, at an expense sometimes amounting to nearly £50, but may be reduced, by the railway, to less than one hundred miles, and performed in seven hours, at an inconsiderable expense.

It is proposed that the Railway shall pass nearly through the centre of the island, on the south side of the Blue Mountains, until near its termination; thus establishing a direct communication between Kingston, Spanish Town, all the interior of the island, Savannah la Mar, and Montego Bay.

Produce from the interior is now brought to the nearest port by expensive land conveyance, sometimes at a greater cost than the freight home; then shipped on board small craft for Kingston, a dangerous voyage, in which the cargo is frequently much damaged, and at an expense which renders some of the finest lands in the interior of the island nearly useless to the proprietors.

From Kingston to Spanish Town is a level plain, but from thence to Montego Bay much of the country is mountainous. This circumstance is expected to prove highly advantageous to the undertaking, as it is well known that the mountains abound with metallic ores, and that coal is to be found in the vicinity.

Mr. Montgomery Martin, in his excellent work on the British Colonies, states, that "the lead ore of Jamaica is extremely rich, and heavily impregnated with silver; several varieties have been found and worked at Liguana, where, also, straited antimony is obtainable. In the lower mountains of Liguana every variety of copper ore is in profusion, particularly the green and livid, and the shining dark copper ores; in the more mellow matrices, yellow mundic (marchisites) is largely mixed. In the mountains above Bull Bay, a dark iron sand, attracted by the magnet, is found. Neither gold or silver ore has yet been discovered, though it is certain the natives, when first visited by Columbus and the early Spanish settlers, possessed these metals in abundance:"—a strong presumption that the precious metals are a natural production. "The lower mountains, east of Kingston, are principally composed of a whitish bastard marble, frequently used for lime-stone; Long Mountain, near Kingston, is entirely composed of carbonate of lime." And Mr. Jerden, in an excursion to the mountains of Liguana (called Peter's Rock), "found an amazing quantity of copper ore, in masses of three and four pounds weight, where detached portions of the mountains had slipped away; stone quarries abounding, and the indication of coals evident."

It cannot, therefore, be doubted, that the expense of the necessary tunnels through the mountains will be more than repaid by the ores; and with this view it is intended, on applying for an act of the legislature of Jamaica, that a right should be reserved to mine for the distance of one thousand yards on either side of the proposed railway.

The following statements, extracted from authentic documents, will show the extent and importance of the trade of this most valuable colony:—

In 1830 the total number of vessels, inwards, was	715	120,721 tons.
.. .. . outwards, ..	690	130,747

251,468 tons.

EXPORTS FROM JAMAICA TO GREAT BRITAIN.

Sugar, 1,429,093 cwt.; rum, 3,529,652 galls.; molasses, 1,177 cwt.; coffee, 15,644,072 lbs.; ginger, 4,222 cwt.; pimento, 4,974,302 lbs.; arrow-root, 4,526 cwt.; lime juice, 8,000 galls.; sweetmeats, 6,730 lbs.; cotton, 50,220 lbs.; hides, 2,000 cwt.; logwood, 7,361 tons; Nicaragua wood, 328 tons; lignum vitæ, 319 tons; ebony, 244 tons; mahogany and cedar, 2,219 logs; cabinet wood, 1,750 pieces; lance wood, 29,324 spars; fustic, 1,452 tons; besides other miscellaneous articles.

The import duty in Great Britain amounting to - £3,736,113 10 6; besides 86,000 tons exported and imported to and from British colonies and foreign states.

Mr. Bridges estimates the internal value of property, moveable and immoveable, in 1834, to be, independent of roads, wharfs, bridges, and other items, at - £60,200,000
 Yearly created property - - - - - 8,581,283
 Imports - - - - - 3,000,000
 Exports - - - - - 4,000,000

Area of square miles 6,400.

Land for which quit-rent is paid to the Crown - Acres 2,235,732
 In cultivation about - - - - - „ 2,000,000
 Population about 400,000 - - - { white, 35,000
 { coloured 350,000

Presuming that only one-fourth of the above tonnage of 251,468 tons were conveyed by the railway, at an average of only £2 per ton, the sum thus raised would amount, in round numbers, to an annual income of - £125,000

Passengers to Spanish Town, one hundred daily, at only 10s., little more than half the present expense - - 18,000
 Passengers to Montego Bay, ten daily, at £6 - - 21,000
 Passengers for intermediate distances, one hundred and forty daily, at rates varying from £1 to £5 - - - 100,000

Making a total income of - £264,000

The precise amount of outlay necessary to procure this income cannot be correctly estimated until the survey is completed; but even supposing the cost to amount to the whole of the proposed capital of the Company, viz. £1,000,000, and the annual expenditure - - £100,000 there would still remain, independent of the produce of minerals, &c., a balance of - - - 164,000

£264,000

exceeding 15 per cent. profit on the capital proposed to be embarked.

It is under these highly favorable circumstances that this undertaking is confidently submitted to the consideration of capitalists, and more particularly of those connected with this important colony.

One of the first acts of the Company will be to dispatch an

authorised commissioner, with a competent engineer and a mineralogist, to make surveys and estimates on the spot; and no further call than the first deposit of £2 per share will be made until the commissioner's report is received, an act of the colonial legislature obtained, and the documents laid before a general meeting of the subscribers for their approval.

The Company will be incorporated, and the subscribers secured from any liability, beyond the amount of their shares, by act of parliament.

For further particulars and shares apply (until further arrangements are made) to Mr. H. PLAYFORD, Secretary, *No. 3, Bartholomew Lane.*

DUKE OF CORNWALL'S HARBOUR.

THIS is one of the prospectuses of the celebrated swindle, in which the names of a number of eminent personages were fraudulently made use of; and which, after obtaining an act of parliament, fell to the ground on the fraud being detected. The *Railway Times* took a considerable part in the exposure of this nefarious scheme, and an action for libel was brought against that paper by Mr. George Ross.

(Incorporated by Act of Parliament.)

THE DUKE OF CORNWALL'S HARBOUR, AND LAHNCESTON AND VICTORIA RAILWAY.

Prospectus of a Company, established for the construction of a Harbour at Tremoutha Haven, in the Bristol Channel, designated as above, by command of His Most Gracious Majesty, and a Railway from Launceston to Victoria (a proposed new town, so called after H.R.H. the Princess), in the County of Cornwall, proceeding under the august auspices of

PATRON—The King

VICE-PATRON—His Royal Highness the Duke of Sussex, K.G., P.R.S.

PATRONESSES—Her Royal Highness the Duchess of Kent; her Royal Highness the Princess Victoria,

And the following friends and promoters of the undertaking:

The Right Honourable Admiral Lord de Saumarez, G.C.B.

The Right Honourable Lord Rolle

Rt. Hon. Major-Gen. Sir Henry Hardinge, M.P., G.C.B.

Sir William Molesworth, Bart., M.P.

Sir Charles Lemon, Bart., M.P.

Sir William L. S. Trelawney, Bart., M.P.

E. W. W. Pendarves, Esq., M.P.

Captain Sir John Ross, R.N., C.B., K.S.A., K.C.S.

William Beetham, Esq., F.R.S.

Thomas Grant, Esq., Dep. V. Adm.

George Lyall, Esq.

John Wilks, Esq., M.P.

Robt. Williams, Esq., M.P.

Vice-Admiral Sir Edward Codrington, M.P., G.C.B.

John Ramsbottom, Esq., M.P., F.R.S.

Geo. Fredk. Young, Esq., M.P.
 Captain James Clark Ross, R.N., F.R.S., F.L.S., F.R.A.S.
 Albert W. Beetham, Esq., F.R.S., F.L.S.
 Captain G. W. Manby, F.R.S.
 The Rev. William Scoresby, F.R.S.
 The Rev. John Glanville
 Richard Cock, Esq.
 Richard Penwarden, Esq.
 Thomas Pearse, Esq.

who, at a public meeting held at the Crown and Anchor, Strand, on the 5th of March, 1836, were appointed a provisional committee, with power to add to their number, and from which number, or otherwise, to elect directors, to be named in the act of parliament, to manage the affairs of the Company.

CAPITAL—£165,000.

TRUSTEES—John Ramsbottom, Esq., M.P.; George Lyall, Esq.;
 Robt. Williams, Esq., M.P.

AUDITORS—Not yet appointed

BANKERS—Messrs. Williams, Deacon, and Co., London; Messrs.
 Husband and Co., Devonport; Messrs. Robins and Co. (East
 Cornwall Bank), Launceston

ENGINEERS—Roger Hopkins and Sons, Plymouth

SOLICITORS—Henry Toulmin, Esq., 6, Furnival's Inn, London; Messrs
 Gurney and Cowland, Launceston

CONSULTING ENGINEERS—Sir John Rennie, F.R.S., and Geo. Rennie,
 Esq., F.R.S.

PARLIAMENTARY AGENT—John Mackay Browne, Esq.

SECRETARY—George Ross, Esq.

Office—No. 3, Copthall Buildings, London

PROSPECTUS.

The want of a safe and commodious harbour, to which vessels might run at all times of the tide, on the dangerous coast of the Bristol Channel, between Ilfracombe and the Land's End, has long been severely felt and deeply deplored. The number of lives and amount of property lost every year for want of such an accommodation is so great, that from official returns which have been obtained, it appears that no less than twenty-three vessels were wrecked in one year, and in most of them, all the crews perished. The causes of such great destruction of lives and property by shipwreck, on the north-west coast of Devon and Cornwall, have been thus well expressed in a memorial some time ago laid on the table of the House of Commons:—"Ships coming from the Atlantic in thick weather; outward-bound vessels from Bristol, Liverpool, and Glasgow; coasters going round the Land's End from the English Channel into the St. George's and the Bristol Channels, and coasters going from the St. George's and the Bristol Channels to ports in the English Channel, often meet with strong westerly gales and a heavy sea, which so commonly prevail in the winter season; caught within the headlands, in vain they endeavour to beat off, as it is impossible for them to weather the land in either direction; and for want of

a port of safety to run to, they eventually become a wreck upon the coast, and in many cases all hands perish; whereas if a pier or breakwater had been formed, they would have had a place of safety to run to, and thereby have saved themselves, their ships, and cargoes. Large quantities of wreck are found upon this coast almost every winter, which clearly proves that many vessels founder or are dashed to pieces on detached rocks, in trying to keep off this dangerous shore, for want of a place of safety to run to. The loss of his Majesty's ship, *Weazle*, when all hands perished, is a melancholy instance also of the necessity of a safe harbour upon this coast." In the same year, it appears that twenty-four fishing boats were also lost, with the sacrifice of thirty-one lives, leaving twenty widows and sixty-one children destitute and dependent on charity; and within a short period, not fewer than thirty-two vessels have been wrecked in Bideford Bay alone—namely, one East Indiaman, four West Indiamen, seven trading vessels from various foreign parts, and twenty coasters and Irish traders, of which eleven vessels had all hands lost, and others a great part of their crews, which is exclusive of six wrecks on the island of Lundy, where only one of the crews were saved, besides which; numerous shipwrecks have occurred almost every year on other parts of the dangerous coast between Ilfracombe and the Land's End.

It has therefore been long an important question with the philanthropist and merchant, what are the best means that can be devised to prevent such great sacrifices of human life and valuable property? Various plans have with this view been, at different times, suggested for the construction of a breakwater and harbour; but upon examination of the coast, it appears that no place is so favourably situated, or affords so many advantages, as Tremoutha Haven, in the parish of St. Gennys. The extent of this haven is so considerable, that a harbour may be made capable of containing more than 500 vessels of the average class usually frequenting the Bristol Channel. Here there will also be good anchorage, as there are but few rocks below low-water mark, and these are so near the shore as easily to be excavated. The depth of water, at low water, is unusually great, as compared with other inlets in the Bristol Channel, and varies in different parts from 11 to 28 feet, so that vessels of large burthen, and even ships of war, may ride at anchor at all times of the tide; whilst there is now no port on that coast where vessels can enter at less than half flood.

The haven being situated on the north of Carnbeak Point is thereby well sheltered from the south and south-west. On the opposite side is Penkenner Point, so that the only direction in which the haven is now exposed is from the west and north-west. To afford complete shelter and form a commodious and safe harbour, it is proposed to construct two breakwaters, as represented in the accompanying plan, one of which will be also adapted as a quay, with convenient warehouses. The extent of surface proposed to be inclosed is 24 acres at low water, and 42 acres at high water; in 12 acres of which, there is a depth of more than 11 feet, gradually increasing to 28 feet at low water; and the rise of tide at high spring tides is nearly 30 feet. Peculiar facilities are afforded for the construction of breakwaters, the space between high and low water mark being covered with rocks and loose stones of great size, many of them being from eight to ten tons weight, which are well calculated for the purpose.

The position of Tremoutha Haven, in the Bristol Channel, is also exceedingly favourable, it being nearly equidistant from Bristol and the Land's End. The spot has been examined by several nautical and scientific men, who have spoken of it in high terms of commendation. The opinion of Captain Sir John Ross, R.N.C.B., the justly-celebrated northern navigator, is entitled to peculiar weight. In a letter addressed to the secretary of the committee, he says—"It affords me much satisfaction to give my willing and unqualified testimony of the many and great advantages which commerce and navigation will reap from the projected harbour at Tremoutha; and I can certify, from experience, that there is no part of the coast of England so much in want of a harbour of refuge as that which lies between the Land's End and Ilfracombe; nor could a better situation be found on that coast than that of Tremoutha; and having examined the charts and the engineer's report, I have no doubt but that an excellent harbour may be constructed there, at a moderate expense, and that it would be very beneficial to the navigation of those seas, but particularly to the trade of Bristol and Liverpool."

The plan of the harbour has also been submitted to Captain James Clark Ross, R.N., F.R.S., who has kindly favoured the projector with his advice in its formation; and, in a letter to the secretary on the subject, observes, that he considers it will, if constructed as now proposed, *form one of the finest and most capacious artificial harbours in the world*, adding—"I shall, most willingly, do anything that lies in my power to promote an undertaking which has for its objects the preservation of human life, and the most important national and commercial advantages." The Rev. Mr. Scoresby, F.R.S., no less distinguished as a navigator than for his scientific acquirements, has also favoured the secretary with his opinion, in saying—"That a harbour in such a position would be a valuable acquisition, both in a commercial and philanthropic view, there can be no doubt; and that a harbour *can* be obtained there, at a comparatively moderate expense, seems unquestionable from the reports you have received. The large proportion of outlay in such national works, being spent in the form of wages, is always a benefit *directly* to the labouring public, and *indirectly* to those to whom the *necessitous* labourer looks for help and support, whilst the increase of intercourse with the localities, by means of new objects and increased facilities of access to the places around, has a tendency to promote an advance in local property, and a benefit generally to the local population;" and Captain Manby, F.R.S., well known for his philanthropic pursuits and ingenious inventions for the preservation of human life, in a letter received from him, in allusion to the harbour, remarks—"I will offer you my decided approbation of such an undertaking, and my best wishes for its success, feeling, as I do, that nothing tends so much to lessen the calamity of shipwreck as that of a *certain* harbour of refuge, especially on a coast so proverbially notorious as that of Cornwall for its fatal and distressing consequences."

That an undertaking, calculated to remedy such dreadful calamities and destructive occurrences, will meet with universal approbation and adequate support, cannot therefore be doubted; and whether viewed as a great national and commercial benefit, or as opening a sure source of private emolument to the adventurers, a public company, established

on liberal principles, for the above purpose, may reasonably be expected to receive every merited encouragement, as well from his Majesty's government, where its aid may become serviceable, as from the community at large; and especially from individuals resident near the spot, as being more immediately interested in the success of the enterprise.

Such, then, is the avowed object of *this Company*, and to render it an equally *profitable* as a *benevolent* undertaking, it will be found that the projector has been no less successful than zealous in his endeavouring to secure every advantage which locality can afford, enterprise suggest, or capital procure.

In connection with the harbour it is in contemplation to build a small town, to be called Victoria, to meet the exigencies of the population, which it is expected will speedily be attracted to the spot, and sufficient land has been secured for the purpose; but this department will be undertaken by private individuals, without encroaching on the funds of the Company. It is intended, however, that a railway to Launceston shall be combined with the harbour, in order to promote its success, and diffuse its benefits among the neighbouring population. The railway is intended to pass through an important agricultural district, which now obtains manure and other supplies at considerable expense, and will terminate for the present in the borough and market town of Launceston. A cheap and expeditious communication will thus be obtained between the harbour and the interior. The proposed harbour and railway have been surveyed, and plans made and deposited with the clerk of the peace for the county, as required by the standing orders of the House of Commons. The other requisite preliminaries have also been complied with, and an act of parliament is now in progress to authorise the construction of the harbour and railway, and invest the directors with the usual and necessary powers; as also to limit the liability of the shareholders to the amount only of their respective shares; and the more effectually, under any circumstances, to secure them against any prospective losses beyond the amount of their capital, it will be expressly provided in the deed of settlement, and in the bye-laws of the Company, that no contract (be the amount soever small) shall be entered into, without the contractor subjecting himself to the following clause—viz., "And it is hereby expressly agreed and declared, and the true intent and meaning of these presents is, that the capital stock and funds of the said new harbour and railway company shall alone be answerable to the demands thereupon under this contract; and that no member of the said Company shall, upon any pretence or account whatsoever, be subject or liable to any such demands, beyond his share of the capital stock or funds of the said Company; any rule of law or equity, or anything contained in this contract, to the contrary, notwithstanding."

The cost of the various works necessary to be performed in constructing the harbour and railway, so as to afford the required accommodation to vessels entering the harbour, and have the trade on the railway in full operation, has been estimated by the engineers (after minute calculations of all contingent expenses) at the sums contained in the amount thereof hereunto annexed, and which they consider, from long experience, amply sufficient, although much less

than the expense of some other works of a similar nature, in consequence of the abundant supply of stone for the erection of the breakwaters, which may be obtained on the spot, and the low rate of wages paid to able-bodied labourers in the district. The estimated expense of the railway is proved to be amply sufficient when compared with the actual cost of the Bodmin and Wadebridge Railway, which is nearly of equal extent, and has been recently completed in the same county, under the directions of the engineers of this undertaking.

ABSTRACT.

Constructing the two breakwaters, with two granite piers at the entrance of the harbour; building a lighthouse on the end of the inner breakwater; the quay wall, warehouses, dry dock, with shipwrights' and timber yards, as particularised in the annexed accounts, including a reserve of £8,000 to cover contingencies, unforeseen accidents, &c.	£91,693 10 0
Forming and completing 16½ miles of railway to Launceston; branch railways on the breakwater and quays; warehouses, sheds, &c., on different parts of the line; two locomotive steam engines; fifty railway waggons; two omnibuses; engine-house, forge and foundry, with an allowance of £4,000 for surveys, plans, sections, act of parliament, law, and incidental expenses	53,850 0 0
Total estimated expense of the harbour and railway	£145,543 10 0

The next question which naturally arises is, what are the returns expected to be derived from the outlay of this sum? To ascertain this, great pains have been taken and careful inquiries made, and, from the best information which could be obtained, there appears no reason to doubt that the revenue will amount to the following sums per annum:—

Harbour dues on vessels and barges entering the harbour (see specific account)	£4,367 10 0
Quay dues on goods landed and exported (ditto)	2,679 3 4
Tolls for conveyance of goods on the railway (ditto)	12,758 18 0
Passengers, calculated only on the present inhabitants of the district	400 0 0
Rent of dry dock, yards, and other premises	210 0 0
Revenue per annum, arising from the works	£20,405 8 4
Interest on surplus capital of £20,000, at 4 per cent.	800 0 0
Total revenue of the Company	£21,205 8 4

		Brought forward—£21,205 8 4
	Deduct probable annual expenses, viz. :—	
Stipends, salaries, &c.	- - - £2,000 0 0	
Repairs of the harbour and other works	- - - 500 0 0	
Working stationary engine and repairs	- - - 400 0 0	
Two locomotive engines, ditto	- 1,200 0 0	
Repairs of railway	- - - 350 0 0	
Other incidental expenses	- - - 150 0 0	
	-----	4,600 0 0
Total net revenue of the Company	- - -	£16,605 8 4

Being more than 10 per cent. per annum on the proposed capital	- - - £165,000
The above expenses of the combined undertaking being about	- - - £145,000
Leaves a "surplus fund" to be laid out in government securities, of	- - - 20,000
	----- £165,000

Such reserve of £20,000 being intended to meet unexpected contingencies, and as a protection to the shareholders against any possible demands ever being made against them beyond the amount of their respective subscriptions.

These calculations of profit might have been considerably increased, had the promoters of the undertaking been disposed to take into account every source of *prospective* as well as *existing* traffic. They prefer, however, to limit their calculations to those articles about which no reasonable doubt could be entertained, whilst at the same time they anticipate, although they do not depend upon, new sources of revenue, leaving to the proprietors a fair prospect that, as the benefits of the scheme become developed, their shares will progressively rise in value. The proposed harbour is admirably situated as a packet station, especially for Waterford and other parts of the south of Ireland; and there is every reason to believe that government will soon see the importance of adopting it. The late Mr. Telford was employed by the postmaster-general, several years since, to report on the practicability of a post-office packet station being established on this coast; but the expense of constructing a harbour for that purpose appeared then too great to warrant its adoption. The opportunity which will now be afforded will doubtless be gladly accepted, as the result will be a great saving of time and expense in the transmission of mails to and from Ireland and the west of England. The conveyance of these mails and passengers, as well as the harbour dues to be paid by the packets, are sources of profit, for which no calculation is now made. The formation of a railway from Waterford to Limerick, for which an act of parliament has been obtained, will open a direct line of intercourse between that part of Ireland and England, through the medium of the new

harbour; and the construction of an extensive sea-port at Birturbuy, on the west coast of Ireland (101 miles from Waterford), by the *British and American Intercourse Company*, will also, when completed, add much to the importance of the proposed harbour at Tremoutha, as a port of the nearest and most direct communication between England and the West Indies, the United States, and the British Colonies of North America, through the excellent channel which that undertaking is about to open with the western hemisphere. As a fishing place, the proposed harbour will afford considerable advantages. The supply of fish in the Bristol Channel is very great, and are known to abound in the vicinity of the proposed harbour, the facility of access and egress to and from which affords a place of safety, now so much wanted, for landing the fish, which may be sent by the railway to Launceston, and from thence to other places. As a port of safety, to all towns in the Bristol Channel, the proposed harbour will be of essential benefit, by affording shelter to the numerous vessels belonging thereto. Amongst these may be mentioned, Bristol, Gloucester, Bridgewater, Minehead, Chepstow, Newport, Cardiff, Swansea, Neath, Llanelly, Milford, Ilfracombe, Barnstaple, Bideford, and Padstow, *cum multis aliis*, the trade to and from all which is very great. In point of tonnage, Bristol, Swansea, and Newport, stand amongst the principal ports in the kingdom. To the merchants of Bristol, Liverpool, and Glasgow, it will also be of great use, in enabling foreign vessels to proceed to their destinations without the loss of time to which they are now subject, by being often compelled to put back by contrary winds to King-road, the Mumbles, Penarth, or Milford Haven, after having nearly reached the Land's End. It has been stated by West India captains, that, when the proposed harbour is constructed, vessels might work down with the tide from Bristol, and remain there in safety until an opportunity be afforded for putting to sea. They could then take advantage of the first fair wind, and get clear of the Land's End in a few hours. As now situated, they often sail from King-road with a fair wind, but before they reach the Land's End, if the wind changes, they are obliged to put back, and thus are detained for days and weeks. Such annoyances and delays might, as just stated, be prevented by resorting to the proposed harbour, which will, doubtless, therefore become a place of general rendezvous for vessels bound round the Land's End, and waiting for a fair wind. The number of such vessels is frequently considerable, as more than three hundred at a time have often been thus seen at the Mumbles, and many others at places more distant. In consequence of the great number of vessels that frequently take shelter in the Mumbles Roads, it was in contemplation to build a breakwater into the sea, nearly a mile in length, and an act of parliament was obtained to authorise its construction; but in consequence of the large amount which it would have cost, it was abandoned. The proposed harbour will be a much more eligible place of refuge, and, doubtless, will be much frequented. The number of vessels set down in the estimate of returns is believed to be considerably less than the actual amount which will enter the harbour. As regards pilots, a well-regulated system of pilotage will, of course, be established at the new harbour, which will be extremely beneficial, not only on account of the additional security it will afford to the trade in general,

but also for the purpose of picking up vessels at sea in distress, and those obliged to put back by strong westerly gales. A life-boat will be constantly afloat, ready to afford assistance when necessary. On this subject, as well as respecting a lighthouse intended to be erected on Carnbeak Point, or other eligible situation near the harbour, the corporation of the Trinity-house have been memorialised, and have returned favourable replies. Government will derive many and important advantages from the proposed harbour; and the Lords of the Admiralty have consequently been pleased, on an application made to their lordships, for their necessary consent to the formation of the harbour, readily, on the part of the crown, to grant their sanction to the undertaking.

In the event of war, the proposed harbour would be of incalculable advantage in affording the means of communication between the Bristol and the English Channels, without the expense and risk of the circuitous and uncertain voyage round the Land's End, which would then be materially increased by the application of steam power to privateers. The King's ships and revenue cruisers will also obtain a secure place of anchorage in and near the proposed harbour, from whence they may depart as occasion might require.

The advantages of the proposed harbour and railway might have been much more fully detailed, did the limits of a prospectus admit; but it is presumed that sufficient has been said to produce a general conviction that it will be of incalculable benefit to the community in general, as well as an excellent investment for capitalists; and being thus shown it will be of such great importance in a national point of view, it will, doubtless, meet the liberal support it deserves.

A plan of the proposed harbour, with a map showing its situation compared with other ports in the Bristol and English Channels, as also a sketch of the proposed railway to Launceston, will be found on the following pages.

REGULATIONS.

1.—The capital of the Company to be £165,000, divided into 6,600 shares of £25 each, on which a deposit of £1 per share only is required; and no further call will be made until the act of incorporation has been obtained, when instalments, not exceeding £2 per share at any one time, will be made, at the discretion of the directors, as the works proceed, upon giving thirty days' notice thereof in the public papers, and in case of failure in payment, the shares and the deposits paid therein, to be forfeited to the Company.

2.—The affairs of the Company to be under the management, in the first instance, of a provisional committee of thirty members, the gentlemen before-mentioned to constitute the first board, with liberty to add to their number accordingly—three to be a quorum.

3.—The said provisional committee to have the control of the funds of the Company, until such time as directors, to be named in the act of parliament, shall by them be appointed from their number or otherwise; which directors shall, upon the passing of the same, take upon themselves the management of the concerns of the Company, according to the provisions of the act, being such as are usual and customary.

4.—The qualification of a director to be his holding twenty shares—of an auditor, ten shares.

5.—Every vacancy in the direction, after the time limited by the act, or which may be occasioned by death, resignation, or otherwise, to be filled up by the proprietors.

6.—All questions of moment, affecting the constitution or objects of the Company, to be decided by a majority of the proprietors present at a public meeting; and in the event of a ballot being required and acted upon, the votes to be registered in proportion to the number of shares, to be presented at and deposited in the Company's office until the day after the ballot.

7.—Proprietors to have one vote for each share they respectively may hold; those resident in the country to vote by proxy.

8.—A general meeting of the proprietors to be held in the month of July in every year.

9.—A deed for the regulation of the Company, embracing the above stipulations, is in preparation, which, when settled by counsel, and approved of by the provisional committee, shall be binding on the shareholders, and, with the parliamentary contract, to be executed by them when so required.

10.—There shall be paid (half-yearly) to the shareholders, from and after the passing of the act of incorporation, interest at the rate of 4 per cent. per annum, out of the reserve fund (the subscriptions being completed), with the understanding, however, that no subsequent dividend, exceeding 5 per cent. per annum, shall be made until such time as the said reserve fund shall have been replaced to its intended original amount of £20,000 out of the profits of the concern, which, according to the report of the engineers, may be expected to commence on the completion of the railway within two years, and of the harbour within three years from the passing of the said act, when the combined undertaking may reasonably be expected to be in full operation.

11.—The above-mentioned 6,600 shares will, to reputable applicants, be allotted without the smallest reserve; but the projector of the undertaking is to have the option of purchasing at par, all, or any shares which may remain unappropriated, or on which the deposit may not be paid within the time limited.

I.—ESTIMATE OF THE EXPENSE OF THE HARBOUR.

Constructing the outer breakwater in the direction shown on the annexed plan, the length being 440 yards lineal, the breadth at top 21 feet, the slope outside four horizontal to one perpendicular, and inside two to one, the average height being nearly 42 feet, 296,010 cubic yards of stone, at 2s. per yard -	£29,601	0	0
Extra labour in paving the top of the breakwater, and the slopes between high and low-water mark, being done with granite at various prices - -	8,690	0	0
Constructing the inner breakwater and quay, 759 yards lineal, 27 feet wide at top, and with slopes, varying as per section, the average height being			

£38,291 0 0

× 2

	Brought forward—	£38,291	0	0
about 42 feet, 213,312 cubic yards of stone, at 1s. 6d. - - - - -		15,998	8	0
Extra labour in building part of the inside as a quay wall, from the depth of 15 feet under low-water mark, paving the outside slope between high and low-water mark, granite coping on the inside, and paving the remainder of the top of the breakwater, building a parapet wall, 7 feet high, and fixing 50 mooring posts, at various prices, too numerous to be here particularised - - - - -		14,024	2	0
Building two granite piers at the entrance of the harbour - - - - -		7,380	0	0
Building a lighthouse on the end of the inner break- water, providing and fixing buoys, capstans, &c. -		1,000	0	0
Building 530 yards lineal quay wall, 18 feet high, and backing-up wharfs - - - - -		5,300	0	0
Warehouses, cranes, and weighing machine - - -		700	0	0
Building a dry dock, and shipwrights' and timber yard - - - - -		1,000	0	0
Plans and superintendence of the above-mentioned works, contingencies, and unforeseen accidents -		8,000	0	0
		£91,693 10 0		

II.—ESTIMATE OF THE EXPENSE OF THE RAILWAY.

Forming and completing 16 $\frac{3}{4}$ miles of rail- way to Launceston, at £2,400 per mile, including every expense of the main line, as a single railway - - - - -	£40,200		
Extra for the inclined plane, which is in- tended to be made to ascend the hill near the harbour, a length of 1,011 yards, and a rise of one in nine, including a 30-horse power stationary engine, chains, machinery, rollers, &c. - - - - -	2,690		
One half-mile of branch railways on the breakwater and quays - - - - -	660		
Five dépôts, with turn-outs or branch rail- ways, warehouses, sheds, &c., complete, on different parts of the line - - - - -	2,000		
Two locomotive steam engines, each weigh- ing 10 tons, and with 12 $\frac{1}{2}$ inch cylinders, and tenders, &c. complete, at £850 each	1,700		
Fifty railway waggons, at £30 each - - -	1,500		
Two omnibuses, at £50 each - - - - -	100		
Engine-house, forge, and foundry - - -	1,000		
		£49,850 0 0	
Surveys, plans, and sections; act of parliament, law charges, clerks, and other incidental expenses		4,000	0 0
		£145,543 10 0	

III.—ESTIMATE OF EXPECTED RETURNS.

HARBOUR DUES

On Vessels and Barges entering the Harbour, the Registered Tonnage of Vessels and the Actual Loading of the Barges being calculated.

	Tons.	Price per Ton.		Amount.		
		s.	d.	£	s.	d.
Vessels and barges lading with sand to be discharged in the harbour	30,000	0	2	250	0	0
Ditto, with limestone	20,000	0	2	166	13	4
Ditto, with culm	10,500	0	4	175	0	0
Ditto, with coals	8,000	0	4	133	16	8
Ditto, with other goods	4,700	0	6	117	10	0
Vessels loading slate in the harbour	3,000	0	6	75	0	0
Ditto, manganese	5,000	0	6	125	0	0
Ditto, corn, potatoes, &c.	3,000	0	6	75	0	0
1,000 vessels loaded with coals, culm, ores, or ballast, expected to enter the harbour as a place of refuge to wait for fair winds, say average burthen 120 tons each	120,000	0	4	2,000	0	0
200 vessels loaded with other goods, at an average burthen of 250 tons each	50,000	0	6	1,250	0	0
				£4,367 10 0		
QUAY DUES						
<i>On Goods Landed and Exported.</i>						
Sand and limestone	50,000	0	2	416	13	4
Culm	10,500	0	6	262	10	0
Coals, manganese, and iron	13,600	1	0	680	0	0
General merchandise, at an average 3d. per cwt.	3,500	5	0	875	0	0
Corn and timber	3,600	2	0	360	0	0
Slate exported	3,000	0	6	75	0	0
				£2,669 3 3		
TOLLS						
<i>For Conveyance of Goods on the Railway.</i>						
Sea-sand for manuring 3,000 acres of land, at 10 tons per acre, say to be conveyed an average distance of 10 miles, at 3d. per ton per mile	30,000	2	6	3,750	0	0
Lime for manuring other 3,000 acres of land, say to be conveyed 10 miles, at 4d. per ton per mile	10,000	3	4	1,666	13	4

III.—ESTIMATE OF EXPECTED RETURNS.

	Tons.	Price per Ton.		Amount.		
		s.	d.	£	s.	d.
TOLLS, &c.						
Culm for the supply of 27 lime-kilns, situated beyond Launceston, to be conveyed 17 miles, at 3d. per ton per mile -	7,500	4	3	1,593	15	0
Coals to Launceston, for the supply of the town and district beyond, to be conveyed 17 miles, at 4d. per ton per mile -	4,500	5	8	1,275	0	0
Coals for the district between the harbour and Launceston, say to be conveyed 10 miles, at 4d. per ton per mile -	1,500	3	4	250	0	0
Slate for the supply of the district beyond Launceston - - -	300	5	8	85	0	0
Bar and cast iron for ditto	500	5	8	141	13	4
Timber for ditto - -	500	8	6	212	10	0
Stones for buildings and roads, say to be conveyed eight miles at 3d per ton per mile - -	300	2	0	30	0	0
General merchandise, including ironmongery, groceries, drapery, and all other shop goods, 17 miles, at 6d. per ton per mile - - -	3,500	8	6	1,487	10	0
Manganese for exportation	5,000	5	8	1,416	13	4
Corn, flour, and potatoes -	3,000	5	8	850	0	0
Passengers, calculating only on the present inhabitants of the district, at 2d. per head per mile				400	0	0
				£13,158 15 0		
RENT						
Of dry dock, shipwrights' and timber yards, and other premises - -				210	0	0
INTEREST						
On surplus capital, to be invested in the public funds or otherwise, say £20,000 at 4 per cent.				800	0	0
				£1,010 0 0		
				£21,205 8 0		

IV.—ESTIMATE OF PROBABLE ANNUAL EXPENDITURE.

Stipends to directors and auditors, salaries to the secretary, resident engineer, harbour master, two clerks, and eight wharfingers and labourers, &c.	-	-	-	-	£2,000
Repairs of the harbour, quays, and other works connected therewith	-	-	-	-	500
Working the stationary engine, and repairs	-	-	-	-	400
Working two locomotive engines, with the waggons attached thereto, one constantly and both occasionally, 400 days' work at £3, including expenses of working and repairs	-	-	-	-	1,200
Repairs of railway	-	-	-	-	350
Other incidental expenses, say	-	-	-	-	150
					<u>£4,600</u>

RECAPITULATION.

I.—Expense of harbour	-	£91,693	10	0	
II.— „ of railway	-	49,850	0	0	
„ of surveys, plans, act of parliament, &c.	-	4,000	0	0	
					<u>£145,543 10 0</u>
III.—Returns of harbour, quays, &c. &c.	-	£7,036	13	4	
Returns of railway	-	13,158	15	0	
Returns of rent of dry dock and yards	-	210	0	0	
Returns of interest on surplus capital	-	800	0	0	
					<u>£21,205 8 4</u>
IV.—Annual expenditure of combined works	-	4,600	0	0	
					<u>£16,605 8 4</u>
					<u>£16,605 8 4</u>
Capital	-	-	-	-	£165,000
Expenses (about)	-	-	-	-	145,000
					<u>£20,000</u>
Fund of reserve (about)	-	-	-	-	£20,000
					Annual returns full ten per cent. on the capital.

DUKE OF CORNWALL'S HARBOUR, AND LAUNCESTON AND VICTORIA RAILWAY COMPANY

At a meeting of the friends and promoters of this undertaking, held, pursuant to public advertisement, at the Crown and Anchor Tavern, Strand, on Saturday, the 5th of March, 1836, to receive certain important communications, and adopt resolutions thereon—Captain Sir John Ross, R.N., C.B., K.S.A., K.C.S., in the chair—

Read a letter from Sir Herbert Taylor, intimating the King's most gracious approbation of the harbour about to be constructed at

Tremoutha Haven, and his royal pleasure that it shall bear his Majesty's name, as Duke of Cornwall, of which his Majesty condescends to be announced the patron.

Read a communication from his Royal Highness the Duke of Sussex, graciously consenting to be named vice-patron of the undertaking.

Read a letter from Sir John Conroy, written by desire of her Royal Highness the Duchess of Kent, intimating the pleasure of her Royal Highness that the town to be built near the said harbour, and at the termination of the intended railway, shall be called Victoria; and that their Royal Highnesses the Duchess of Kent and Princess Victoria (after whom the said town is so to be named), have graciously condescended to become patronesses thereof.

Read official letters from the Lords of the Admiralty and the elder brethren of the corporation of the Trinity-house, favourable to the measures in contemplation; and the chairman having briefly stated the objects of the meeting, the following resolutions were passed unanimously:—

Moved by Sir William Molesworth, Bart., M.P. for East Cornwall; seconded by Sir Chas. Lemon, Bart., M.P. for West Cornwall—

I.—That this meeting, deeply lamenting the great loss of lives and property which so frequently occurs on the dangerous north-west coast of Devon and Cornwall, considers that the construction of a harbour of safety on that coast, to which vessels might resort in tempestuous weather, would be an object of great importance, no less in a philanthropic than in a national and commercial point of view.

Moved by Sir William L. S. Trelawny, Bart., M.P. for East Cornwall; seconded by E. W. W. Pendarves, Esq., M.P. for West Cornwall—

II.—That this meeting having examined the charts and reports of the engineers employed to survey that coast, is of opinion, that Tremoutha Haven, in Cornwall, where abundance of suitable materials for the construction of breakwaters and piers may easily be had, is admirably adapted for the formation of a harbour of refuge, and no place on that coast appears better suited for the purpose; whilst the great depth of water and capacity of the haven affords ample accommodation for more than 500 vessels of large burthen—even for ships of war—and will admit of their entering it at all times of the tide.

Moved by the Right Hon. Major-Gen. Sir H. Hardinge, M.P. for Launceston; seconded by John Ramsbottom, Esq., M.P. for Windsor—

III.—That this meeting considers that, in the event of such a harbour, as proposed, being determined upon, the construction of a railway from thence to the nearest market-town of Launceston being adopted in connection therewith, whereby its benefits may be diffused over a large agricultural district, would render the combined undertaking not only one of great public advantage, but apparently a sure source of considerable private emolument to adventurers in the enterprise.

Moved by Vice-Admiral Sir Edward Codrington, Bart., M.P. for Devonport; seconded by George Fred. Young, Esq., M.P. for Tynmouth—

IV.—That this meeting duly appreciating the value and importance of the illustrious patronage which has been announced as willing to sanction this patriotic work, and not doubting but that, under such august auspices and with such humane as well as beneficial objects in

view, it will meet with universal approbation and support, is of opinion that it is highly advisable a Company be forthwith established, on liberal principles, to carry the same into effect, and that measures be taken to obtain the act of incorporation, by following up the petition which has already been presented to the House of Commons.

Moved by John Wilks, Esq., M.P. for Boston; seconded by William Beetham, Esq.—

V.—That the building of a town (proposed, by permission, to be called “Victoria,” after her Royal Highness the Princess) in a convenient situation, near the intended harbour, for the accommodation of inhabitants and visitors, appears to this meeting a most desirable object; and although it is not judged expedient that the funds of the Company should be employed therein, yet, as private individuals have signified their intention to invest their capital in that undertaking, this meeting considers it highly deserving of every encouragement which the Company can consistently afford.

VI.—That this meeting, having heard read the proposed prospectus of the said Company, fully approves thereof, and recommends that the following gentlemen be named to form a provisional committee to carry these resolutions into effect, with power to add to their number; and from that number, or otherwise, to choose directors, to be named in the act of parliament.

VII.—That George Ross, Esq., the projector of this interesting enterprise, and the founder of the proposed town, by whose indefatigable exertions the measures have been so far advanced, be requested to act as secretary to the undertaking.

The chairman having vacated the chair, and which being taken by William Beetham, Esq., the thanks of the meeting were unanimously voted to Capt. Sir John Ross, for the very able and satisfactory manner in which he filled the chair, and for the zeal and talent displayed by him in forwarding the wishes and objects of the meeting.

CAPITAL—£165,000, in 6,600 Shares of £25 each.
DEPOSIT—£1 per Share.

Applications for shares to be made on or before Thursday, the 17th of March, instant, (if by letter, free of postage,) to either of the solicitors, or to the secretary, at the office of the Company, No. 3, Copthall Buildings, London, according to the following form:—

DUKE OF CORNWALL'S HARBOUR AND LAUNCESTON AND VICTORIA
RAILWAY COMPANY.

Dated March, 1836.

Sir—I request you will reserve and secure for me shares in the above Company, on which I intend to pay the required deposit of £1 per share; and in that case, I engage to conform with the other regulations prescribed in the printed prospectus of the said Company.

I am, your obedient servant,

To

(Adding the address to the signature.)

SURREY, SUSSEX, AND SOMERSET RAILROAD COMPANY.

NOTHING scarcely can be more valuable, at the present period of railway advancement and progress, than to look back at the records of remoter periods. Some may be inclined to regard as waste-paper the prospectus of a railway conceived twenty years ago, ruined by the great panic, and dropped as abortive. A careful perusal of it will, nevertheless, throw a strong light upon our present proceedings, and give us good reasons by which to direct our future course. Nothing in the ensuing prospectus, dated 1825, will be found truer than the economical reasoning, although the experience on the subject was then very scanty; nothing more false than the mechanical anticipations. All that is said as to the benefits to result from the supply of coal, the conveyance of fish, the saving in weight and quality in carrying cattle and agricultural produce, has been fully tested and approved by subsequent experience; the cautious pledge that "the necessity of using locomotive engines is not contemplated, every calculation being made on the use of horses only," is now more calculated to excite laughter than any other emotion.

The reflection which must most strike every sound thinker, is with regard to the serious injury to the national interests which accrued from the delay in the prosecution of the lines to Southampton, Brighton, and the other places indicated, which might just as well have been begun in 1825 as in 1835, if artificial circumstances of currency had not intervened. We must also be impressed by the conviction, how expedient it is that we should carefully prosecute the completion of the railway system.

When we see that a number of the most respectable and intelligent men in the era of 1825 doubted whether locomotive power ought to be applied on railways, though the principle had been proved by Trevithick twenty years before, we should be cautious how in 1845 or 1846 we distrust the efficacy of engineering skill as to atmospheric or other railway improvements; for we may find, in the progress of events, some system, by which the despised "atmospheric system" may turn out a "scientific improvement, which, when fully confirmed, will be availed of."

PROSPECTUS OF THE SURREY, SUSSEX, HANTS, WILTS, AND SOMERSET RAILROAD COMPANY.

CAPITAL—£1,400,000.¹

DIRECTORS.

² Sir Edward Banks

³ James Brogden, Esq. M.P.

Henry Blanshard, Esq.

Charles B. Curtis, Esq.

Hugh Gray, Esq.

John Gray, Esq.

¹ The ideas as to capital in those days were founded upon the cost of tramways; and it is curious to watch the advance in outlay from the slight plates of the tramway to the heavy rails on the Great Western. There are lines of the same length as the one here contemplated, which have cost five times the capital. In 1825, and even later, locomotive power and station room and machinery were never estimated.

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|--|--|
| Marmaduke Hart, Esq. | 7 George Richard Robinson, Esq. |
| William Hazlewood, Esq. | 8 John Routh, Esq. |
| 2 Gilbert East Jolliffe, Esq. | William Russell, Esq., M.P. |
| 2 Hilton Jolliffe, Esq., M.P. | Michael Shepley, Esq. |
| 2 Sir William Jolliffe, Bart. | Benjamin Shaw, Esq. |
| 2 Rev. William John Jolliffe | Edmund Treherne, Esq. |
| 3 Thomas Read Kemp, Esq., M.P. | 9 George Tritton, Esq. |
| 3 John Martin, Esq., M.P. | 9 Charles Augustus Tulk, Esq.,
M.P. |
| 4 William Alexander Mackinnon,
Esq. | 10 John Tyrrell, Esq. |
| 5 Sir John Paul, Bart. | Thomas West, Esq. |
| 6 A. W. Powles, Esq. | 11 Mark Wood, Esq. |

Richard Willson, Esq.

SECRETARY—Henry Cooke, Esq.

SOLICITOR—Nathaniel Saxon, Esq.

12 PRINCIPAL ENGINEER—John Rennie, Esq.

ARCHITECTS AND SURVEYORS—Messrs. Bantock, Geary, and Lewer

BANKERS—Messrs. Martin, Stone, and Stone, London; Messrs. Barclay, Tritton, Bevan, and Co., London; Messrs. Sir John Perring, Bart., Shaw, Barber, and Co., London; Messrs. Hall, West, and Borrer, Brighton; Messrs. Michell, Mills, and Co., Brighton

The directors having proceeded with deliberate caution in combining various contending interests, with a view to neutralise all reasonable opposition in the progress of their plans, have united to their original design the interests of the London, Portsmouth, and Southampton Railroad Company,¹³ by adding a portion of the directors of that projected company, and agreeing to the principle of a transfer of their subscriptions in participation of this object.

Desirous to secure in time of war, as well as of peace, the substantial

^{2, 3, 3, 3} The great contractor of those days, partner with the Messrs. Jolliffe below, in the firm of Jolliffe and Banks.

^{2, 3} Defunct members of parliament. The first, chairman of the ways and means in the House of Commons, was deeply engaged in the speculation of those days, and betraying his colleagues in the Arigna Mining case, was, nevertheless, deprived of his place and his seat in the end. The second was the builder of Kemp Town, Brighton, and then a wealthy capitalist. The third, the eccentric member for Galway, the author of the bill for the Prevention of Cruelty to Animals.

⁴ A very active and benevolent member of the legislature in the present day.

⁵ The present banker of that name.

⁶ Brother of J. D. Powles, Esq., of the London Dock Company. Mr. A. W. Powles is still a railway director—namely, in the Newcastle and Carlisle Railway, being almost the solitary one in the above list so honoured.

⁷ The chairman of Lloyd's, and afterwards M.P.

⁸ This is not, we believe, the deputy-chairman of the Northern and Eastern Railway and the ex-chairman of the Blackwall, but a gentleman of the same name, who is a mining director in the St. John del Rey Mine.

⁹ The banker.

¹⁰ This is, we believe, a gentleman, afterwards a director in the South Eastern Railway.

¹¹ Afterwards Sir Mark Wood.

¹² Now Sir John Rennie, president of the Institute of Civil Engineers, the original designer of many of our existing lines, and one of our oldest railway engineers.

¹³ This shows how old is the design of a railway to Southampton.

advantages of an abundant and cheap supply of coals,¹⁴ the directors had recourse to the extension of the plan to the Somerset Collieries and the immense strata of coals in the vicinity of the Mendip Hills; the supply from whence will diffuse means of improving the circumstances and comfort of a large portion of a population exceeding one million and a half, by rendering coals generally, at less than one half the present cost, in the greater part of those districts, and materially add to the remuneration of the proprietors.

The easy and cheap communication at less than one-third of the expense of present conveyance with the Bristol and British Channels, Portsmouth, Southampton, and London, affording means for the transit of perishable cargoes, fruit, corn, fish, &c., detained by contrary winds, and also of goods generally, to complete the lading of cargoes outwards, are features peculiarly favourable to the trade at the extremities of these lines of railroad, and cannot fail to be a great source of revenue.

Shoreham and New Haven will participate in similar facilities, these different ports being within fifty to seventy-five miles of the metropolis, and all such merchandise may be carried at less expense than the average river charges, premium of insurance, value of interest on property delayed in the usual voyages of ships detained by adverse winds at Portsmouth, bound for London; and the conveyance of goods from Ireland, viâ Bristol, would be proportionably and advantageously facilitated, especially in the winter season.

The nautical and mercantile relations of those important places afford these peculiar advantages uncommon to other lines of railroads.

Another particular feature in this undertaking is, the certain facility, expedition, security, and convenience it will afford to travellers to and from London to Brighton—the importance of which object is proved, it being calculated at a low estimate that there are annually more than 200,000 passengers, that they are rapidly increasing in number, and there being no doubt that by having conveyances cheaper, more commodious and certain, and more frequent, they will be induced to make more numerous journies.¹⁵

The necessity of using locomotive engines is not contemplated, every calculation being made on the use of horses only, although scientific improvement, when fully confirmed, will be availed of.¹⁶

Those objects are peculiar characteristics of this important work, independently of the common advantages which attach to railroads generally.

Intercourse will be thus established with the manufacturing counties of Wilts and Somerset, Salisbury, Wilton, Warminster, Westbury, Frome, Shepton Mallett, &c., &c., and the several towns and villages near the lines of railroad, by lateral branches.

Thus markets will be opened, soils interchanged, hay, corn, stock,

¹⁴ The benefits of the railway system in the conveyance of coal, were those only which were then known as the result of experience by the working of the lines in the north.

¹⁵ The Brighton line has fully shown the truth of these calculations.

¹⁶ This is an extraordinary paragraph, but Sir Humphrey Davy was then alive, who doubted as to gas, and Dr. Lardner is still alive, who says he did not doubt as to steaming across the Atlantic.

both alive and slaughtered, will be conveyed without delay, loss of weight, or deterioration of quality, from being over-driven.¹⁷

Independently of these considerations, it is also proper to enumerate the convenience to farmers of travelling expeditiously to market, at a trifling charge; the conveyance of government stores, minerals, stones, bricks, slates, timber, and every article of consumption; thereby tending to equalise markets,¹⁸ and by reducing the cost of articles, increasing their consumption, and bringing into activity objects that have been heretofore dormant, from the great expense attached to their conveyance.

These are considerations more or less common to all railroads, which, with the addition of those before-mentioned, and coupled with the conviction that the common rate of land-carriage will be reduced more than two-thirds,¹⁹ give confidence in the expectation that the undertaking will amply remunerate those immediately interested, and produce important advantages to the nation at large.

Lothbury, 9th February, 1825.

CALCUTTA AND SAUGUR RAILWAY AND HARBOUR COMPANY.

CAPITAL—£500,000, in 10,000 Bonds of £50 each.
FIRST INSTALMENT—£2.

LONDON BOARD OF MANAGEMENT.

George Money, Esq., Master in Equity, Keeper of Records, and Accountant-General of His Majesty's Supreme Court of Judicature in Calcutta

Robert Downie, Esq., Appin House, Argyleshire

Edward Hughes, Esq., Smeeth-hill-house, Kent

T. B. Swinhoe, Esq., 1, Dorset Square, Regent's Park

W. D. Shirriff, Esq., 63, Guildford Street, Russell Square

Rowan Ronald, Esq., 20, Upper Berkeley Street, Portman Square

Captain J. R. Stock, Upper Baker Street, Portman Square

BANKERS—Messrs. Coutts and Co.

SOLICITORS—Messrs. Birkett and Son

CONSULTING ENGINEER—George Landmann, Esq., C.E., late Lieutenant-Colonel Royal Engineers

INDIAN BOARD OF MANAGEMENT.

Theodore Dickens, Esq., Prothonotary of His Majesty's Supreme Court of Judicature in Calcutta

Robert Cunningham Paton, Esq. (Messrs. Bagshaw, Paton and Co.), Calcutta

¹⁷ The very great advantage of conveying "stock, both alive and slaughtered," is one of the most prominent features in the railway system, and the immense economy to the country has been fully proved in the "Railway Register." "Loss of weight" and "deterioration of quality from being over-driven" will, in a short time, be among the tales of the past.

¹⁸ The effect of railways upon the provincial markets in equalising prices was well foreseen, and the experience of all can affirm how completely it has come to pass.

¹⁹ The reduction in the rate of land-carriage has been fully equivalent to the estimate here given, and in many cases it has been very much greater.

T. E. M. Turton, Esq., Barrister, Calcutta
 John Swinhoe, Esq. (Messrs. Swinhoe and Co.), Calcutta
 Joseph Willis, Esq. (Messrs. Willis and Earle), Calcutta

BANKERS—Bank in Bengal
 SOLICITORS—Messrs. Swinhoe, Brothers
 ENGINEER—

PROSPECTUS.

It is only necessary to revert to the dangerous and almost impracticable navigation of the river Hooghly up to Calcutta, to show the importance of connecting that great commercial mart, by a railroad, with the entrance of that river.

The practicability of the plan has been fully and clearly ascertained, and the surveys of the most experienced navigators, have pointed out with what facility it may be accomplished.

It is therefore proposed to form a harbour at Thackery's Creek, or some contiguous spot, up to which the navigation of Channel Creek and Lacam's Channel is most safe, possessing, as those streams do, all requisite depth of water and all other *desiderata* for such and undertaking.

From Thackery's Creek a railroad will be constructed to Calcutta, a distance of about 47 miles, almost in a direct line, of a natural level, and with no intervening difficulties of any importance.

A pier will also be built at Thackery's Creek, which place even now affords a natural harbour with 5 or 6 fathoms of water at low tide, and may easily be converted into one capable of containing ships of all classes. Warehouses for stores will be erected, and all those other buildings required for the purposes intended.

Of the security of the harbour no doubt can be entertained, sheltered as it is by high land on either side, and possessing advantages which all acquainted with its localities must admit.

Of the healthiness of this station, as well as of its facility of access, there is ample and important evidence, but the limits of a prospectus will allow of reference only to the official report made by Governor Hastings and the Supreme Council of Bengal, by which it is incontestably established, that "a squadron of the largest ships may enter Channel Creek with the greatest safety, and there pass the monsoon with the utmost security, having every advantage that any harbour in India can afford."

Of Channel Creek little further need be said. Captain Cumberlege, H. C. S., an officer of great experience, has stated it to be "more sheltered from the wind than the river Thames, that it is equally safe in its anchorage, and that it has less tide than any other entrance to the Hooghly."

Lacam's Channel presents an entrance to Channel Creek of undoubted safety, and it is intended to erect a lighthouse at its mouth, either on, or in the neighbourhood of that place, now known as Lighthouse Point.

All passengers or goods arriving in India will be conveyed from Thackery's Creek to Calcutta in about two hours, instead of eighteen or twenty hours, which is the period occupied by the present route up the Hooghly, a distance of about 120 miles by a perilous passage, and at a far greater expense than will be incurred by adopting the line of railroad.

The jungle on Brunswick Island (in which Thackery's Creek is situated) will be removed, wet and dry docks for ships under repairs

Ipswich, are places of the first importance, and the merchandise conveyed between them and London is very considerable. All the fish consumed through the counties of Norfolk and Suffolk, and a great part of that brought to London, is obtained from Yarmouth or Lynn. Bury St. Edmund's is a place of great antiquity and wealth, and in it business to a great amount, in all the staple produce of this country, is carried on. The modes of conveyance to these various places are insufficient on the one hand, and extravagant on the other. It is therefore proposed to construct a railroad from London to Norwich, through Chelmsford and Colchester, with a branch to Harwich, then to Ipswich, with a branch to Bury St. Edmund's; then to Norwich, with branches to Yarmouth and to Lynn.

The probable cost of the straight line to Norwich will be	£555,000
The branch from Colchester to Harwich	- - - 60,000
The branch from Ipswich to Bury St. Edmund's	- - - 90,000
The branch from Norwich to Yarmouth	- - - 75,000
The branch from Norwich to Lynn	- - - 200,000

£980,000

The country through which this railroad and its branches will pass is eminently adapted for that purpose, since it is nearly level every way, and the expense therefore cannot be expected to exceed the capital of the Company. Yarmouth may be considered as the great quay of the northern coast, and from Harwich there is a very considerable trade in grain and other articles to the Continent.

The profits of such an undertaking cannot fail to be great; because, in addition to the constant traffic of passengers, the trade between London and Norwich is very considerable; and through the whole line of road, as well direct as branch, the articles of timber, coals, bricks, lime, and merchandise of every description, are constantly passing to a very great amount.

The Company will be conducted by twelve country and twelve London directors. The capital will be £1,000,000, consisting of 10,000 shares of £100 each. The deposit on each share is £1. Persons desirous of applying for the remaining shares, must forward their tenders in writing, immediately, to Messrs. Sir Wm. Kay, Bart., Price, Marryat, and Coleman, Bankers, Mansion House Street; or to Messrs. Wilks and Verbeke, Solicitors, 36, New Broad Street; and must pay into the hands of one of the above-mentioned bankers the amount of deposit on the shares for which they may tender; and in case a less number of shares shall be allotted than those tendered and paid for, the proportion of the deposit overpaid will be returned when the scrip is issued, which will be on an early day in the month of January.

London, Dec. 23, 1824.

FORM OF TENDER.

To MESSRS. KAY, PRICE, MARRYAT, AND COLEMAN.

I hereby request you will insert my name for shares in "The Norfolk and Suffolk Railroad Company," and you will herewith receive the deposit of £1 per share on the shares tendered for by me.

Dec., 1824.

NORTHERN AND EASTERN RAILWAY.

THE following is the modified prospectus of 1835, upon which the Northern and Eastern Railway has been founded. The royal assent was given to its bill on the 4th of July, 1836, but only for a small portion of the line, which was afterwards restricted to the length between London and Bishop's Stortford; but, notwithstanding this abridgement of the original scheme, the concern laboured under such difficulties that the first partial opening only took place on the 15th of September, 1840. In July, 1845, it was opened to Cambridge. The existence of the undertaking was most promoted by the efficient and energetic exertions of Mr. William Crawshaw, who was the chairman for some time.

On the 1st of January, 1844, the concern was amalgamated with the Eastern Counties, and now forms part of that undertaking, under Mr. Hudson's auspices.

NORTHERN AND EASTERN RAILWAY,

FROM LONDON, THROUGH BISHOP'S STORTFORD, TO YORK, WITH A
BRANCH TO NORWICH AND YARMOUTH.

LONDON COMMITTEE.

- ¹ The Earl of Euston, M.P. Suffolk
- ² Sir Jacob Astley, Bart. M.P. Norfolk
- ³ John Angerstein, Esq. M.P. London
Rowland Alston, Esq. M.P. Herts
Rowland Gardiner Alston, Esq. Herts
Sir Henry Bedingfield, Bart. Norfolk
Sir Thomas B. Beevor, Bart. Norfolk
- ⁴ John Bagshaw, Esq. M.P. London
- ⁵ Sir W. J. H. B. Folkes, Bart. M.P. Norfolk
Col. Sir Robert John Harvey, C.B. K.T.S. Norfolk
Charles Johnston, Esq. Herts
Francis Kemble, Esq. London
- ⁶ Robert William Kennard, Esq. London
- ⁷ John Marshall, Esq. Leeds
John Mann, Esq. Norfolk
- ⁸ John Masterman, jun. Esq. London

¹ Now Duke of Grafton.

² Late Lord Hastings.

³ M.P. for Greenwich.

⁴ An East India merchant, late M.P. for Harwich, now a director of the Eastern Counties and Northern and Eastern Railways; a great promoter of French railways, a large concessionaire, and patron of the Harwich Railway.

⁵ The father of the present chairman of the Lynn and Ely Railway Company.

⁶ The ironmaster, still a director of the Northern and Eastern and Eastern Counties Railways; a great promoter of Belgian railways, connected with Denisons, the bankers, and now sheriff of London.

⁷ Relative of W. Marshall, Esq. M.P., who is still a director of the Northern and Eastern Railway, and was for some time chairman.

⁸ Son of the member for London, and the railway representative of the bank of which he is a partner. He remains a director of the Northern and Eastern, and is a director in other lines, as well as in the Dutch Rhenish, and French and Belgian railways.

The Hon. C. A. Pelham, M.P. Lincoln
 9 H. S. Partridge, Esq. Norfolk
 10 William Rhodes, Esq. Essex
 Rees Goring Thomas, Esq. London
 11 H. G. Ward, Esq. M.P. Herts
 Edmund Wodehouse, Esq. M.P. Norfolk
 Sir Henry Willock, K.L.S. London

YORK COMMITTEE.

The Right Hon. the Lord Mayor, Chairman

<p>12 Thomas Backhouse, Esq. 13 Mr. George Baker 14 Thomas Barstow, Esq. Francis Cholmeley, Esq. 15 William S. Clarke, Esq. George Clough, Esq. William Cooper, Esq. Mr. Robert Cooper The Hon. J. C. Dundas, M.P. 16 Chas. Heneage Elsley, Esq. William H. Hearon, Esq. William Hotham, Esq. 17 George Hudson, Esq. George Jennings, Esq.</p>	<p>18 John Henry Lowther, Esq. M.P. William Oldfield, Esq. Thomas Price, Esq. Edward Prest, Esq. 19 John Simpson, Esq. Eustachius Strickland, Esq. 20 Robert Swann, Esq. John Swann, Esq. George Swann, Esq. Samuel Tuke, Esq. John Tweedy, Esq. Robert Davies, Esq. Messrs. Blanchard and Richardson } Solicitors</p>
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EDINBURGH COMMITTEE.

The Lord Provost

<p>Sir Francis W. Drummond, Bt. Baillie Thomson Baillie Donaldson 21 John Learmonth Thomas Clapperton, Esq. John Cockburn, Esq. Alexander Monypenny, Esq. John Russell, Esq.</p>	<p>Sir James G. Craig, Bart. Baillie McFarlane Baillie McLaren William Henderson, Esq. John Blackwood, Esq. John Waugh, Esq. James McInnes, Esq.</p>
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⁹ We believe this gentleman is now deputy-chairman of the Ely and Huntingdon Railway Company, but we are not sure of the identity.

¹⁰ Deceased. Was an eminent contractor.

¹¹ The present secretary to the Admiralty. Is now a director of the Eastern Counties and Northern and Eastern Railways, and was the first chairman of the latter.

¹² A director of the York and North Midland Railway.

¹³ The late able secretary of the York and North Midland Railway.

¹⁴ A director of the York and North Midland Railway.

¹⁵ Sir W. S. Clarke, late Lord Mayor of York.

¹⁶ A director of the Great North of England Railway.

¹⁷ The Railway King, and now chairman of the Eastern Counties Railway. This reference to him in 1835 will show that he is not so new in railway matters as has been supposed.

¹⁸ Still a railway director.

¹⁹ Sir John Simpson, knighted as Mayor of York. A director of the York and North Midland Railway, was, for some time, a director of the Brighton.

²⁰ One of an eminent railway family in the north.

²¹ A great railway man in Scotland. Chairman of the Edinburgh and Glasgow Railway.

NORWICH COMMITTEE.

²² Richard Crawshay, Esq.	Henry Martineau, Esq.	
Timothy Steward, Esq.	Benjamin H. Baker, Esq.	
Samuel Shalders Beare, Esq.	William Cooper, Esq.	
John Cozens, Esq.	R. N. Bacon, Esq.	
²³ Horatio Bolingbroke, Esq.	Mr. William Freeman	
John Marshall, Esq. Sheriff	Mr. Dodshon Blake	
Richard Shaw, Esq. Alderman	Roger Kerrison, Esq. }	Solicitors
David Hills, Esq.	John R. Staff, Esq. }	

YARMOUTH COMMITTEE.

William Barth, Esq. Chairman

Captain H. Alexander	Henry Muskett, Esq.
Richard Ferrier, Esq.	Richard Moyse, Esq.
Richard Hammond, Esq.	Ambrose Palmer, Esq.
Samuel Palmer, Esq. Solicitor	William D. Palmer, Esq.
Captain Jeffries	Frederick Preston, Esq.
Robert H. Kemp, Esq.	Captain Todman
Richard Lonsdale, Esq.	William Yetts, Esq. Secretary

THETFORD AND ATTLEBURGH COMMITTEES.

John Chambers, Esq. Mayor	Garnier Gill, Esq.
L. S. Bidwell, Esq.	Richard Munn, Esq.
Henry Brown, Esq.	H. R. Tyrrell, Esq.
William Clarke, Esq. Solicitor	²⁴ Wyrley Birch, Esq.
J. B. Faux, Esq.	John Marner, Esq.
James Fison, Esq.	James Muskett, Esq.
Cornell Fison, Esq.	Mr. Robert Mace
T. W. Gill, Esq.	Chris. Spanton, Esq. Solicitor

ST. IVE'S AND HUNTINGDON COMMITTEES.

David Veasy, Esq. Chairman

Mr. Robert Beart	Mr. Charles Green
Mr. James Osborn Beck	Mr. John Green
Mr. Thomas Bowyer	William Hammond, Esq.
Samuel Edward Cooch, Esq.	Richard Hopkins, Esq.
Mr. William Cote	Dennis Herbert, Esq.
Mr. Edward Clemenson	Mr. James Howson
James Duberly, Esq.	Mr. Thomas Knight
²⁵ George Game Day, Esq.	Thomas Lindsell, Esq.
Mr. William Dent	William Lindsell, Esq.
Mr. Thomas Elgood	Edward Martin, Esq.
Mr. Joseph Goodman	Downes Martin, Esq.
Benjamin Greene, Esq.	Charles Margetts, Esq.

²² Cousin of William Crawshay, Esq., who afterwards became chairman of the Northern and Eastern Railway.

²³ Now a director of the Norfolk Railway.

²⁴ A railway director.

²⁵ A solicitor, who promoted the St. Ives and Huntingdon, which obtained its act this session. Several of the St. Ives committee, now named, are connected with the new Company.

Martin Rawlins Osborne, Esq.	Mr. Joseph Upsher
Mr. Thomas Dennis Paul	Mr. Thomas Birt Ulph
John Bonfoy Rooper, Esq. M.P.	Mr. John Birt Ulph
Mr. John Robinson	Mathew Wasdale, Esq.
Mr. Samuel Thorp	Mr. Thomas Wilson
Charles Veasey, Esq.	

TRUSTEES AND TREASURERS.

Sir James Cockburn, Bart.; ²⁶ John Masterman, Esq.

BANKERS TO THE COMPANY.

London - - - -	²⁷ Messrs. Masterman, Peters, and Co.; Messrs. Sir James Esdaile and Co.
Leeds - - - -	Brown and Co.
Lincoln - - - -	Lincoln and Lindsey Joint-stock Bank
Cambridge - - - -	John Mortlock and Sons
Huntingdon - - - -	Rust and Veasey
Norwich - - - -	Harveys and Hudsons
Thetford, Brandon, & Harding	Harveys and Hudsons
Edinburgh - - - -	Commercial Bank, Scotland
Manchester - - - -	Bank of Manchester; Heywood and Co.; Jones, Loyd, and Co.
York - - - -	Swann and Co.; Wilson and Co.; York City and County Banking Company; Union Banking Com- pany
Doncaster - - - -	Leatham, Tew, and Co.
Peterborough - - - -	David Yorke and Co.
Hertford - - - -	Samuel Adams and Co.
Yarmouth - - - -	Gurneys, Turners, and Brightwen
Glasgow - - - -	Glasgow Banking Company
Liverpool - - - -	Leyland & Co.; A. Heywood & Sons

STANDING COUNSEL—²⁸ The Honourable James Stuart Wortley

SOLICITORS—²⁹ Messrs. Vizard and Leman, Lincoln's-inn-fields

PARLIAMENTARY AGENTS—Messrs. A. and R. Mundell

SECRETARIES—³⁰ Charles Rowcroft, Esq.; Septimus Hodges, Esq.

ENGINEER—³¹ James Walker, Esq. F.R.S.L. & E.

Offices of the Company—No. 56 Lombard-street, London

²⁶ Father of No. 8.

²⁷ The present bankers to the Company.

²⁸ The late Solicitor-general.

²⁹ In the early troubles of the Company were removed and succeeded by Messrs. Crowder and Maynard.

³⁰ Mr. Rowcroft is the novelist, author of several colonial tales. He was succeeded by Richard Till, Esq., the treasurer of the Norfolk Railway, and by William Bourne, Esq., the present secretary of the Company.

³¹ The late president of the Institute of Civil Engineers. Was removed early, and Messrs. Stephenson and Bidder appointed in his room.

The committee appointed to examine the plans proposed for a railway between London and York, offer the following observations to the public :—

The objects of their inquiry have been threefold—

- 1st. Whether a railway be required.
- 2nd. Whether the nature of the country through which it would pass, allows of a good line being accomplished at a moderate expense.
- 3rd. What are the returns which may be fairly expected as a remuneration for the capital sunk in the undertaking.

I.—On the first point it is important to observe, that the advantages to be derived from the Northern Railway by no means terminate with the line itself. Even if the present railway is never extended beyond the city of York, it at once facilitates the communication between London and Edinburgh, and the whole of Scotland must participate in the benefit, which would be reciprocal.

The advantages of this railway to Scotland at large, are manifest. It will shorten the time for travelling between London and Edinburgh, by upwards of eleven hours, thereby greatly diminishing the fatigue and expense of the journey. It will render the transmission of intelligence by letters and newspapers much more rapid; and if the railway shall hereafter be extended to Edinburgh and Glasgow (which may be looked to as an ulterior object), these advantages will be greatly increased.

But without depending upon this prospective advantage, it is only necessary to refer to the extensive manufactures in the north-west of England, the vast agricultural interests connected with the supply of the metropolis, and the necessity of frequent travelling along the whole line, in order to be convinced that the present undertaking may justly be considered as a work of great national importance and private advantage.

This railway will also form a trunk, from which communications may hereafter be opened to the various important places lying to the east and west of the line.

Persons may travel along the railway at half the cost of the present stage-coach travelling.

The whole distance to York will be accomplished in ten hours, instead of from twenty-two to twenty-six hours, as at present.³²

A safe and easy conveyance will be afforded to gentlemen's private carriages; merchandise of every description will be more promptly and cheaply supplied to every place through which the line passes; cattle, and other agricultural produce, will be saved the great loss of weight sustained from the present mode of travelling, and thus be brought to market in much better condition, and in one-tenth of the time. In addition to this, a far more rapid and economical mode of transmitting the mails will be afforded to government.

II.—However great and various are the advantages held out by the modern invention of railways, it does often happen that the great inclinations and rugged character of the country prevent their being carried into effect. The committee have therefore anxiously scrutinised this part of the subject, and, in order to insure trustworthy results, they have employed an eminent engineer, Mr. Walker, to examine and compare

³² This is accomplished.

the different lines which have been offered to the public. From the report of this gentleman they are enabled to state, that the present railway offers inclinations far more favourable than any other, either existing or projected, in the country, of considerable length.

The greatest inclination is 1 in 330, and that for a short distance only; and the average inclination through the whole line is 1 in 828.

These favourable inclinations, with little exception, are obtained without great embankments or deep cuttings.

Another remarkable feature in the present railway is, its almost entire freedom from tunnels, which it is still hoped may be altogether avoided, but which, if necessary, will not exceed one mile in the whole extent, and will be divided into three or four short lengths.³³

Experience has amply proved that these points are of the utmost importance in the construction of a railway, as they not only reduce the original outlay, but also render the cost of annual repair small in proportion.

The coaches and carriages which leave London by the northern and north eastern roads are not fewer than those which leave it by the west and midland roads, but the whole of the former traffic will be confined to the present proposed railway, while that of the latter must be divided between the Great Western and the London and Birmingham Railways. Shall not the northern and eastern districts then avail themselves of the advantages which those of his Majesty's subjects, who live in a part of the country less favourable for such an improvement, have already secured to themselves?

III.—The calculation of expense and returns is exhibited in a table below. It is founded upon official returns of the traffic at present existing upon the line of road. The various items are uniformly stated at a point below that which the calculation has afforded, but the committee have the satisfaction to announce that they show a profit of about 14 per cent. upon the capital to be expended.

The following is a detail of the estimated cost, formed by Mr. Walker, after a thorough examination of the country:—

From London to Cambridge ³⁴	- - - - -	£890,000
Cambridge to Selby, where, by the railway already made to Leeds, a communication will be at once opened with that most important district	- - - - -	1,495,000
Selby to York	- - - - -	145,000
Add for power	- - - - -	300,000
		<hr/>
Total	- - - - -	£2,830,000
		<hr/>

³³ The tunneling on the present London and York is of a more formidable character.

³⁴ The cost of the Northern and Eastern for seventy-nine miles ten chains, according to *Tuck's Railway Shareholders' Manual*, was £31,256. £1,122,498 had been expended up to June, 1845. Add to Mr. Walker's £890,000, part of his estimate for locomotive power, and his estimate for fifty-three miles appears to have been a fair one.

OUTGOINGS.

Interest on £3,000,000, at 5 per cent. - - -	£150,000	0	0
Annual expenditure, calculated at 50 per cent. on the returns - - - - -	412,841	0	0
Excess of annual returns, after allowing 5 per cent. on capital sunk, and allowing also for expenses, being altogether a profit of nearly 14 per cent. on capital subscribed - - - - -	262,841	0	0
	<hr/>		
	£825,682	0	0
	<hr/>		

RECEIPTS.³⁵

*Passengers by stage coaches - - - -	£425,682	0	0
Posting and transport of carriages - - - -	46,000	0	0
Coach parcels - - - - -	34,000	0	0
†Carriage of cattle and sheep, alive or in carcase ³⁶ -	130,000	0	0
Malt and other agricultural and garden produce -	45,000	0	0
Merchandise by fly vans, waggons, &c. - - - -	120,000	0	0
Various mineral produce - - - - -	25,000	0	0
	<hr/>		
	£825,682	0	0
	<hr/>		

³⁵ The earnings of the Northern and Eastern in 1845 were about £100,000.

* The number of coaches licensed from London to York is seven, performing twenty-eight journeys per week. The average number of passengers carried the whole distance in a year is 13,104. At 2d. per mile, they will pay, for York alone, an annual sum of £21,840. Calculating, in like manner, the number of passengers who go to the intermediate places, and those travelling north of York, carried as far as York, the total number of such passengers by coaches is 797,940, in each year, which at 2d. per mile, calculated for the several distances these passengers travel, would raise £296,988 per annum; but as the railway may not be presumed to absorb the whole of the passengers now travelling by stage coaches, let one-third be deducted from the preceding number, and this will leave an income of £197,992. As railways create their own sources of revenue, to this sum must be added that increase, on which is founded all calculations of the profit of railways, and which calculations have always been more than verified by subsequent experience. The increase of traffic may on such data be expected to be not less than three-fold, but taking this at not more than double, the return will be £395,984. To this must further be added, the passengers commencing their journeys from the intermediate places on the line, say one-tenth. Only of the passengers going by coaches the whole line, this tenth would amount, in round numbers, to £29,698, and would create a total return from passengers of £425,682.

† The present loss on driving cattle to London 100 miles, is 40s.; on sheep, 5s. The annual supply of London is 150,000 bullocks and 1,500,000 sheep. Total loss at present, £675,000. The above receipts from the carriage of cattle are estimated by taking a certain proportion of the cattle and sheep which are brought weekly from those parts through which this railway will pass. One hundred miles may be assumed as the average distance those cattle travel; and 2,000 cattle carried 100 miles, at 3d. per head per mile, would be £130,000; 16,000 sheep, at ½d. per head per mile for 120 miles, would be £104,000. Calculating on carrying only two-thirds, the return on this head would be, in round numbers, £156,000, but take only £130,000.

³⁶ The whole of this traffic estimate is exaggerated, but that for cattle most; though the cattle traffic on the Northern and Eastern is large.

The line from London to York will commence at a short distance from Shoreditch Church and the City Road, or one of these, and from thence proceed through Tottenham, Cheshunt, Hoddesdon, and Bishop's Stortford to Cambridge, thence to St. Ives, Peterborough, Bourn, Lincoln, Gainsborough, and Snaith to Selby, thence to York.

It may be presumed that the interests of the towns approached by the line will secure their assistance and support; but should the committee be mistaken as to this, it may be expedient to make some deviations.

The capital will be raised in shares of £100 each.³⁷ Similar shares in the Stockton and Darlington Railway are now selling for £240 per share, and in the Liverpool and Manchester Railway for £195 per share. The London and Birmingham is only forming, yet the shares on which only £35 has been paid are now selling for £70 each.

The distance from London to Cambridge will be 53 miles, thence to Selby 130 miles, and thence to York 16 miles.

Looking to the advantages which attend this line from the peculiar favourableness of the country, and calculating from the experience of the roads now in full work, there is no doubt but the distance from London to Cambridge may be travelled in two hours and half, and from London to York in less than ten hours.

The whole line to York may be finished in four years,³⁸ and that to Cambridge may be in full work and producing its profits in about two years. As a part of this scheme, it has been proposed to make a branch commencing at Cambridge, and extending thence to Norwich and Yarmouth, the great value of which will appear from the following observations:—Yarmouth being the most eastern part of our coast, offers the most direct means of communication with all the northern parts of the continent. A railway is now about to be established between the port of Hamburg and Lubeck, from which latter town steamers are constantly plying to Riga, Copenhagen, Stockholm, Petersburg, and other parts of the Baltic. Here, then, is a fair ground to expect a constantly increasing supply of passengers. In addition to this, it must be considered, that the seas surrounding the island abound in fish; that the inclination to use this natural produce is the same in this as in other countries; but that, owing to the expensive means of conveyance, fish still remains an article of luxury in the interior of the country, instead of a staple article of subsistence. The cheap and rapid means of transport afforded by a railway would, doubtless, much increase the consumption, and bring the produce of our exhaustless sea within reach of the bulk of our population. On the establishment of such a branch, it might also confidently be hoped that many of the proprietors of the Scotch fisheries would order their cargoes to be landed at Yarmouth, and conveyed thence to London, as the distance and expense of transport would thereby be diminished two-thirds.

If, from the shortness of time left to make the necessary preparations, it should be deemed advisable to go in the first year for part only of the Northern and Eastern line, the subscribers will be allowed the option of retaining shares, diminished in an equal proportion to all, and to be increased as the line may be extended, or they will be allowed to retire,

³⁷ Shares are now £50 shares.

³⁸ This still remains to be done.

leaving only £1 per share towards the expenses of the previous surveys, &c.

Applications for shares may be made to the solicitors or secretaries; if by letter, post paid; and, upon receiving an answer to their applications, the parties to whom shares may be allotted will receive a certificate of the number of shares allotted to them, upon paying a deposit of £3 per share to either of the Company's bankers.

No further call will be made until after the necessary act of parliament is obtained. The deposits so made will be subject to the drafts of either of the treasurers, signed by not less than three of the London committee.

COMMERCIAL RAILWAY,

BY THE ORIGINAL SOUTH LINE, TO BLACKWALL, AND THE EAST AND WEST INDIA DOCKS.

CAPITAL—£600,000, in Shares of £50.

DEPOSIT—£2.

PROVISIONAL COMMITTEE.

George Brown, Esq.	George Lewis Hollingsworth, Esq.
Andrew Clark, Esq.	Thomas Hughes, Esq.
Henry Thomas Curtis, Esq.	¹ J. Humphrey, Ald. M.P.
Joseph Esdaile, Esq.	Alexander C. Johnston, Esq.
William Haigh, Esq.	² John Robertson, Esq.
Henry Harvey, Esq. F.R.S.	John Roskell, Esq.
J. C. Hector, Esq. M.P.	John Stock, Esq.
Charles Hindley, Esq. M.P.	John Ashton Yates, Esq.

With power to add to their number.

³ ENGINEER—Sir John Rennie
SURVEYOR—William Tite, Esq.

BANKERS—The London and Westminster Bank, 38, Throgmorton-street, and 9, Waterloo Place

SOLICITORS—Messrs. Stokes, Hollingsworth, and Tyerman

PARLIAMENTARY AGENTS—J. St. George Burke, Esq. and Joseph Parkes, Esq.

Offices of the Company—No. 32, Poultry

A railway from London to Blackwall is now universally admitted to be essential to the trade and commerce of the metropolis. The remunerating return for the investment of capital is the only matter of necessary investigation in this prospectus.

It will be seen by the accompanying map, that the proposed Commercial Railway is intended to commence between Crutched Friars and Fenchurch-street, contiguous to the great town warehouses of the East and West India Dock Companies, and running south of the Commercial-road the whole distance, to terminate at the East India

¹ Retired, in consequence of a row.

² The only original director remaining on the board.

³ Succeeded by Messrs. Stephenson and Bidder.

Docks and Blackwall, after skirting the Regent's Dock, and the West India Docks. The extreme distance is only three miles and a quarter, whilst from London-bridge to Blackwall, by the river, the distance is more than double.

The intended railway will be constructed, like that to Greenwich, on a succession of arches; thereby reducing the whole line to almost a perfect level, which will be travelled with the advantages of light and air, free from dust and dirt, and without having recourse to ditch or tunnel, stationary engines or dangerous curves, on any part of the line. The arches will be of sufficient height to admit of an easy junction with the Northern, Eastern Counties, and other projected railways, without interfering with the traffic on the Commercial Road.

The projected line will pass through properties, and amongst houses, of inferior value; and the certain demand which the arches of the railway (substituted for the houses removed) will meet with, for shops, warehouses, dwellings, &c., will greatly increase the revenues of the shareholders. There will be four lines of rails, two for goods and two for passengers, in order that the greater speed of the passenger trains may not be checked by the slower rate of the merchandise.

The estimated cost of the railway is, by the reports of Sir John Rennie and Mr. Tite, £600,000. This sum it is proposed to raise by the formation of a joint-stock company, in 12,000 shares of £50 each, on which will be required a deposit of £2 per share.* The provisional committee have taken every pains to ascertain the probable cost of obtaining an act, which, even assuming the undertaking to be opposed, they are confidently led to believe will not amount to more than £5,000 or £6,000; and they pledge themselves not to expend more than that sum, without the sanction of the subscribers, obtained at a public meeting, convened for the express purpose. If no opposition be given, an act will of course be obtained at a very trifling expense.*

The object of the railway being the conveyance both of passengers and goods, it will be connected with the East and West India Docks, and the Regent's Dock. The former two are, perhaps, the most extensive in the world; in proof whereof the West India Dock warehouses and sheds are known to have contained, at one time, above 250,000 tons of foreign merchandise,† while the docks are capable of containing 600 vessels, of from 250 to 500 tons burthen. Above 400,000 tons are

* The plan, section, and book of reference, have been duly deposited, and the requisite notices given. The proportion of dissentient proprietors of property on the line is found to be less than five in every hundred.

† 148,563 hogsheads of sugar, equal to	-	111,750 tons.
70,875 casks	} of coffee	-
433,648 bags		-
35,153 puncheons rum and pipes	Madeira	23,439 "
14,021 logs mahogany	-	42,063 "
21,305 tons logwood, &c.	-	21,350 "

Total - 250,495 tons. See *McCulloch's Commercial Dictionary*.

† The shares are now £25; the actual expenditure has been above £1,000,000, and, by great mismanagement and ill-fortune, the nominal capital has been enormously swollen.

at present annually conveyed between London and the West India and East India Docks alone; and from the extraordinary dispatch now given in loading and unloading vessels, it is quite impossible to foretell what quantity of goods may pass through these docks in the course of the year, when, by means of a railway, they are brought as near to the city, in point of time, as the London and St. Katherine Docks, with a saving (out and home) of from ten to twelve miles river navigation in their favour. The Regent's Dock is intended to be enlarged and formed into a vast collier dock, when it will have room for several hundred vessels. The City Canal (now called the West India South Dock), which is contiguous to the intended railway, is also of great extent, being 1,183 yards in length, and 45 in width.

Besides these various and extensive receptacles for commercial shipping, Blackwall Reach has, from its ample depth of water, been long a favourite place of loading for the largest vessels; and never would be abandoned as such, but for the facility of intercourse with the city, which a station higher up the river affords.

With these depôts for goods, the most extensive in the world, and the extraordinary traffic occasioned by the loading, unloading, and transporting of inward and outward cargoes, to and from the metropolis; and which the vast saving of time and cost, in the transit afforded by a railway, will materially increase, a great remunerating income must accrue to the Railway Company, and, at the same time, an immense saving be the result, to the trade of London.

From the many fatal accidents which have happened on the river, above Blackwall, owing to its unavoidably crowded state, the public attention has been anxiously directed to the practicability of the larger class of steam vessels taking in, and discharging, passengers and goods, lower down the river; whereby the danger now occasioned by their rapidity, and the swell they create, might be avoided, and some effectual remedy applied. The establishment of a railway fully obviates the difficulty; for it is admitted, that a free passage can never be sufficiently maintained in the Pool, and that the speed of steam ships must be limited to four or five miles an hour, instead of permitting eight or nine, as now practised; which would have the immediate effect of inducing steam vessels to take in, and discharge, at Blackwall. The steam vessel proprietors would save at least three hours' consumption of fuel in every trip, as well as the damage constantly occurring to their vessels. The passengers, with their luggage, would at the same time have the advantage of being taken on board, or landed, at a commodious wharf, free from the crowd, bustle, and risks of the present mode of embarking and disembarking, and be conveyed, at a trifling cost, in from ten to fifteen minutes, instead of being detained a period of one and a half, or even two hours, in performing the seven miles between Blackwall and London-bridge, in a river crowded to excess, and liable to many accidents. During the last summer, not fewer, on an average, than seventy steam vessels passed through the Pool daily; and such facilities as the railway would afford will, doubtless, greatly increase the number coming to Blackwall.

The preceding data are sufficient for enabling the subscribers to form a calculation of the probable returns. The following may, however, be regarded as a very moderate estimate:—

Passengers.—The statement in the margin,* shows that nearly 1,500,000 of persons are now conveyed in public carriages to and from Blackwall in the year, and that a still greater number pass in steam boats by Blackwall; and it may be reasonably supposed the increase on these will be proportioned to the increased facilities and accommodations. If only two-thirds of the present passengers came by the railway, they would pay, at 6d. each (the present fare), above £45,000; but assume that there shall only be received

	£40,000 0 0
<i>Merchandise.</i> —Of sugar, coffee, tea, rum, pimento, cotton, mahogany, &c. &c. &c., and exports of plantation stores, dry goods, &c. &c., 400,000 tons are now conveyed to and from the East India, West India, and Regent's Docks, Blackwall, &c., at an average charge of 2s. 9d. per ton; (upon which, at a rate reduced to 1s. 6d. per ton, it is but fair to assume a great increase), 400,000 tons at 1s. 6d., gives £30,000; but say the railway only receives	
	15,000 0 0
<i>Sundries.</i> —Articles of merchandise, per steam vessels, going and coming to and from all parts of the kingdom, Europe, &c.—butcher's meat, poultry, eggs, fish, fruit, butter, salt provisions, bark, timber, bales, bricks, slates, stone, lime, corn, &c.	
	5,000 0 0
<i>Coals.</i> —The quantity consumed in London is 2,100,000 tons; of which, at 1s. per ton, it is not too much to say, that one-twentieth will go per railway, say	
	5,000 0 0

FROM ACTUAL RETURNS.

* Passengers at present annually conveyed both ways, viz.—	
To Blackwall, the Docks, &c. (3,800 per day)	1,337,000
Gravesend	800,000
Margate	100,000
Ramsgate	40,000
Herne Bay	25,000
Sheerness and Southend	15,000
Woolwich	100,000
The Nore, &c.	25,000
Northern, Western, Irish, and foreign ports, about	200,000
	2,642,000

Arches.—Rent of 800 entire arches, 16 to 20 feet high, 50 deep, and 16 feet wide, with two fronts; at £12 each, or 1,600 half arches, having but one front, at £6 each, £9,600, but say only £7,500 0 0

	£72,500 0 0
Estimated increased traffic probably consequent on the formation of the railway, say (one-fourth of £65,000) - - - - -	16,250 0 0

Gross receipts ^s - - -	£88,750 0 0
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The expenses of working this railway, it may be confidently anticipated, will be reduced greatly below those of any existing lines in the kingdom; for the firm construction on solid arches will prevent the sinking and shaking of the foundations and rails, and the whole line is so nearly a perfect level, that it will be probably worked more advantageously by horses than by locomotive engines (not only for merchandise but for passengers), for which object, four distinct lines of rails, which are to be provided, afford every facility; but assume that the annual expenses amount to the sum of - - -

	22,000 0 0
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Leaving net receipts - - -	£66,750 0 0
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These calculations will not be thought exaggerated, when the success of similar undertakings, less advantageously circumstanced, are taken into account. For example—The number of passengers on the Liverpool and Manchester Railway has increased in three years from 450, to 1,300 per day, or equal to about 475,000 per annum, and the journey is ten times longer than from London to Blackwall. Moreover, whilst we calculate on only 1,000 tons of goods per day, for the supply of London, and its exports to foreign ports through the great docks enumerated, the Liverpool and Manchester Railway has exhibited no less than 230 tons weight in a single train; and in the year above 100,000 tons, although competed with by three distinct water conveyances.

On the Dublin and Kingstown Railway, which has been open but one year, the number of passengers in that period has exceeded 1,068,000, and the receipts have amounted to above £31,000, although the distance is only five miles, and the population not equal to one-fifth of London. What, then, ought to be the traffic between London and its port (Blackwall), seeing that the former contains a population of 1,500,000 people, and that the latter may be considered as the stepping-stone from the Thames to the rest of the world? On the

^s Actual passenger traffic about £50,000 a year. The goods traffic has been totally neglected, and the arches are not yet let. Expense of working about £48,000 a year. Act obtained the royal assent 28th July, 1836; line opened throughout 6th August, 1841.

Newcastle and Carlisle Railway (although only a small portion of it is opened), the number of passengers, during the first year, had increased from 45 per day, to upwards of 500, or more than 1,000 per cent. If proof were wanting of the endless traffic which takes place, almost unaccountably, in the midst of a vast population, it would be found in the extraordinary fact, that there is in the eastern suburbs of London a halfpenny hatch, which is let at this moment for no less a sum than £5,000 a year!

It will be a fitting subject for the consideration of the proprietors, after the act is obtained, whether it will not be better to place the two lines of rails, meant for the transport of merchandise, on the ground, on one side of the line of arches, so as to leave the latter for carriages with passengers only, by which arrangement the total cost of the undertaking would be considerably reduced.

A considerable subscription has already been obtained, and the shares yet unappropriated (chiefly those forfeited at the last distribution) may now be had on application by letter (post paid) to the secretary, at the Company's office, No. 32, Poultry (where maps, plans, &c., may be seen); to Mr. Joseph King, sharebroker, Liverpool; to Mr. Christopher Roberts, sharebroker, Birmingham; or to Mr. Jonathan Drewry, sharebroker, Newcastle-on-Tyne.

REMARKS ON THE DIFFERENT LINES DESCRIBED ON THE MAP.

The map shows three lines of railway—two south of the Commercial Road, and one north of it. The lower, or black line, is the Commercial line. The one next above and copied from it, is that upon the faith of which the Blackwall Company obtained their subscription; but which, finding their claim to it wholly untenable, they soon abandoned, assuming, in lieu of it, the upper line north of the Commercial Road. Upon the latter line, therefore, they propose going to parliament, although their subscribers, generally, calculate on the former. With this discrepancy, the Commercial Company have nothing to do, but they fearlessly challenge a comparison of lines, and will appeal to parliament, under the firm conviction, that if a railway to Blackwall be deemed advisable, an act for such can be granted only to their line, for the following reasons:—

1.—The Commercial Railway goes the whole distance on a succession of arches, with the advantages already stated, whereas the Blackwall is made to run in a trench or ditch, commencing at the south-west end of Bury Street, and averaging 10 feet below the surface of all the intersected streets, thereby leaving the railway exposed as a ready receptacle for the filth of the dirtiest part of the metropolis, whilst it must cut through, or otherwise interfere with the common sewers, gas, and water pipes, of at least sixty streets, through which it is meant to pass, and thereby subject the Company to an enormous expense in arching over, if such an extraordinary and unprecedented interruption to great thoroughfares should ever be permitted by the legislature.

2.—The Commercial Railway will have no curve of a smaller radius than a mile, whilst on the Blackwall they occur so small as 300 or 400 yards, and these, too, upon very steep inclines, so as to render travelling on these parts of the line extremely hazardous and difficult.

3.—The greatest inclination of the Commercial Railway will be not more than 1 in 330 feet, or 16 feet per mile, whilst upon the Blackwall they are equal to 1 in 65, or 81 feet per mile. In another plane, along a curve of 900 feet radius, the inclination is 1 in 76, or 69 feet per mile, and in a third place, with conflicting curves of 1,200 feet radius, for full half a mile, the inclination is 1 in 130, or equal to 40 feet 7 inches per mile. As these gradients are quite inadmissible for locomotive engines, the Blackwall Company must have recourse to stationary engines, with ropes or chains, to drag up, and let down, their carriages, thereby subjecting passengers to serious risks, and to detention quite as great or greater than by the ordinary conveyances on turnpike roads.

The Commercial Company rely with entire confidence upon the statements of their engineers and surveyors, on this part of the subject; and in confirmation of these views, beg to refer to the following extracts, from Dr. Lardner's article on railways and locomotive engines, contained in his work on "Steam Engines applied to Railways," and given in the *Times* journal of the 16th of January, 1836 :—

"It may be premised, that persons proposing to engage in any railroad speculation should obtain, first, a table of gradients—that is, an account of all the acclivities upon the line from terminus to terminus, stating how many feet in a mile each incline rises or falls, and its length. Secondly, it would also be advantageous to have a statement of the lengths of the radii of different curves, as well as the lengths of the curves themselves. Thirdly, an account of the actual intercourse which has taken place, for a given time, upon the turnpike-road connecting the proposed termini, stating the number of coaches licensed, and the average number of passengers they carry; also, as near an account of the transport of merchandise as may be obtained. The latter, however, is of no less moment. An approximate estimate may be made of the intercourse in passengers, by allowing for each coach, upon each trip, half its licensed complement of load. With the information thus obtained, the following succinct maxims will be found useful :—

"1.—No railroad can be profitably worked without a large intercourse of passengers. Goods, merchandise, agricultural produce, &c., ought to be regarded as of secondary importance.

"2.—A probable estimate of the number of passengers to be expected upon a projected line of railroad may be made, by increasing the average number of passengers for the last three years by the common road in a twofold proportion.

"3.—At the fare of 184-100d. per head per mile, the profit on the Manchester Railroad is 100 per cent. on the disbursements for passengers.

"4.—The variation of resistance on railroads depends, first, on acclivities; secondly, on curves. By curves are meant the changes of direction of the road to the right or to the left. The direction of a railroad cannot be changed suddenly by an angle, but must be effected gradually by a curve. Supposing the curve to be (as it generally is) the arc of a circle, the radius of the curve is the distance of the centre of the circle from the curve. This radius is an important element in an estimate of the road.

"5.—A railroad having gradients exceeding 17 feet in a mile, will require more mechanical power to work it than it would were it level; and the more of these excessive gradients there are upon it, and the more steep they are, the greater will be this disadvantage.

"6.—Gradients exceeding 50 feet in a mile cannot be profitably worked, except by stationary engines and ropes—an expedient attended with so many objections as to be scarcely compatible with a large intercourse of passengers.

"7.—With the speed now attainable on railways, curves should be avoided with radii shorter than a mile. Expedients may diminish the resistance; but through the negligence of engine-drivers, they must always be attended with danger. Curves are not objectionable near the extremities of a line.

"8.—The worst position for a curve is the foot of an inclined plane, because of the velocity which the trains acquire in the descent, and the occasional impracticability of checking them.

"9.—In proportion as the speed of locomotives is increased by the improvements they are likely to receive, the objections and dangers incident to curves will be increased."

The advantages of a railway to Blackwall, and the sources of profit to be derived from such an undertaking, are now so obvious as to require no advocacy or elucidation.

The line shown on the accompanying plan was first suggested by Mr. P. Jeffery,⁶ and after much consideration and the surveys of Sir John and Mr. Rennie, adopted, as superior to any other. Amongst other advantages which it possesses, are the following:—It starts from the Minories, at a point which renders it not only practicable, but a matter of no difficulty, to form branches connecting the depôt with the St. Katherine Docks, and the great warehouses lately purchased by the East and West India Dock Companies. Its course eastward is, for a considerable part of its extent, through property of the most worthless kind; not interfering with any public building, burial ground, or establishment of any important extent; and the terminations at Blackwall, as well as the communications with the East and West India Docks, have been laid down with the greatest attention to local facilities and advantages.

The estimates upon which the calculations of expense are founded, have been adopted from the reports of Sir John Rennie, Mr. Rennie, and Mr. Tite, with every allowance for contingencies.

The question of claim for compensation on the part of the Commercial Road proprietors, is at once conceded, so far as the same can be fairly proved; it being better to pay money in compensation, than to expend probably a larger amount in a costly and anxious contest in parliament.

The priority to a line south of the Commercial Road is distinctly claimed for this undertaking, and can be clearly established by the most unquestionable proofs and admissions.

Applications for shares, preparatory to their allotment by the provisional committee, may be addressed (post free), to Messrs. Stokes, Hollingsworth, and Tyerman, solicitors, 24, Cateaton-street.⁷

⁶ Mr. Peter Jeffery, originator of the London Bridge approaches.

⁷ The present solicitors. The gross law bills were about £100,000.

GREAT NORTHERN RAILWAY.

LONDON TO YORK, CAMBRIDGE, LINCOLN, SELBY, AND NORWICH.

CAPITAL—£3,500,000, in Shares of £100 each.

DEPOSIT—£2 per Share.

LONDON PROVISIONAL COMMITTEE.

Sir William De Bathe, Bart.	Sir Peter Laurie, Alderman
Robert J. Bunyon, Esq.	William Murray, Esq.
John Lewis Eyre, Esq.	John Pirie, Esq. Alderman
Adam Gordon, Esq.	Thomas Routledge, Esq.
Lieut.-Col. Leith Hay, M.P.	John Saunders, Esq.
John Humphrey, Esq. M.P.	G. J. Steer, Esq.
Felix Ladbroke, Esq.	W. Wilkins, Esq. A.M.R.A.

YORK COMMITTEE.

The Right Hon. Thomas Wood Wilson, Lord Mayor	Edward Prest, Esq.
John Henry Lowther, Esq. M.P.	John Swann, Esq.
The Hon. John C. Dundas, M.P.	George Swann, Esq.
Chas. Heneage Elsley, Esq.	Samuel Tuke, Esq.
Recorder of York	Thomas Backhouse, Esq.
Eustachius Strickland, Esq.	George Hudson, Esq.
Francis Cholmeley, Esq.	John Clough, Esq.
Thomas Price, Esq.	William S. Clark, Esq.
William Hotham, Esq. Alderman	George Jennings, Esq.
William H. Hearon, Esq. Ald.	Mr. George Baker
William Oldfield, Esq. Alderman	Mr. Robert Cooper
William Cooper, Esq. Alderman	Robert Davies, Esq.
John Simpson, Esq. Alderman	Town Clerk,
Robert Swann, Esq.	Messrs. Blanchard } Solicitors
Thomas Barstow, Esq.	and Richardson, }

NORWICH COMMITTEE.

Charles Turner, Esq. Mayor	J. W. Robberds, jun. Esq.
Samuel Bignold, Esq. Deputy Mayor	Henry Willet, Esq.
Lieut.-Col. Harvey, Alderman	John Wright, Esq.
P. Finch, Esq. Alderman	Henry Chamberlain, Esq.
J. Marshall, Esq. Alderman	Timothy Steward, Esq.
J. D. Springfield, Esq. Alderman	H. Martineau, Esq.
A. A. H. Beckwith, Esq. Town Clerk	J. Athow, Esq.
J. Skipper, Esq. Chamberlain	Samuel S. Beare, Esq.
	J. G. Johnson, Esq.
	W. Matchett, Esq.

BANKERS—Messrs. Ladbroke, Kingscote, & Co. Bank Buildings.

SOLICITORS—Messrs. Bignold, Pulley, & Mawe, 4, New Bridge Street, Blackfriars, London, and Surrey Street, Norwich

ENGINEER—Joseph Gibbs, Esq.¹

SECRETARY—William Richard Croggon, Esq.

CONDITIONS.

1. The capital of the Company shall be £3,500,000; to be raised in shares of £100 each.

2. The act of parliament will provide that, no person shall be responsible beyond the amount of his respective shares.

3. A deposit of £2 per share to be paid into the hands of the bankers.

4. The deposit so subscribed shall be available to the necessary expenses of the undertaking—such as making surveys, and applying for the act of parliament.

Applications for prospectuses and shares to be made by letter (post-paid), to the secretary, at the offices, No. 25, Bucklersbury.

It is an established fact that the wealth of this country has been promoted by the facility of her internal intercourse, and that her future prosperity depends upon the further improvement of that branch of public economy. Whatever, therefore, tends to produce this effect evidently confers a national benefit; and the superiority of railway communication over every other is now so universally acknowledged, as to render it unnecessary to enlarge on the great national and individual advantage that must accrue from its adoption.

This railroad will run through the heart of the country, and is intended ultimately to unite the metropolis of England with Edinburgh and Glasgow; a ready transit will thus be given for the manufactures and produce of the central districts to each extremity, forming a perfect line of communication through a large portion of Great Britain.

An object of such great national importance being thus embraced in one undertaking, will readily obtain the legislative sanction, and it is satisfactory to remark, that no local interests of importance will interfere with its completion.

The railway will commence at Goulstone Street, Whitechapel, London, and proceed through Dunmow to Jesus' Green, Cambridge. A branch from this line may be extended to Colchester and Ipswich, giving those important towns the double advantage of a direct communication with the metropolis and the north of England.

The railway will then extend in an undeviating line from Cambridge to Lincoln, and pass near to Huntingdon, Ely, Peterborough, Wisbeach, Market-Deeping, Grantham, Newark, and through Sleaford. From Lincoln it will gently curve, passing near Gainsborough, Doncaster, Thorn, Snaith, Howden, and through Selby to York. By a junction with the Leeds and Selby Railway, a perfect communication will be made with Leeds, Bradford, Halifax, Huddersfield, and the other great manufacturing towns in that district. Branch lines may, with great facility, be made to Nottingham and Sheffield.

The line to Norwich will commence at Dunmow, and terminate at St. Faith's Lane.

¹ Engineer of the present London and York.

It is further intended to extend the railway from York to Carlisle. To this great line may be joined the Stockton and Darlington, the Pickering and Whitby, and the Newcastle and Carlisle Railways; thus affording a most important mode of communication with the north-eastern parts of Yorkshire. From Carlisle the railway will be extended to Edinburgh and Glasgow, and at Moffat diverge in two branches, one through the valley of the Tweed, by Drumelzier, near Peebles and Eddlestone, and then unite with the railway from Dalkeith to Edinburgh. The other branch will proceed from Moffat by Hamilton to Glasgow; and thus complete the great commercial line of communication between England and Scotland.

From this general outline, and the accompanying map, it will be collected that this design will give increased facility to the following branches of commerce:—

The cotton and lace manufactures of Nottingham and Derbyshire.

The stocking manufacture of Leicester.

The cutleries and iron-works of Sheffield.

The carpet, blanket, and woollen manufactures of Dewsbury, Leeds, and Huddersfield.

The linen manufactures of Knaresborough and Barnsley.

The silk and woollen manufactures of Norwich.

The collieries of the north.

All the staple commodities of Scotland.

And agricultural produce throughout the whole line.

This railway offers to the traveller a mode of conveyance at once speedy, commodious, and economical. The journey to York, a distance of more than 190 miles, instead of occupying twenty-five weary hours, will be accomplished safely and pleasantly in eight; that to Cambridge in two hours and a quarter; and the journey to Norwich, instead of thirteen, will only occupy four hours. The journey to Carlisle will be accomplished in fifteen hours; and that to Edinburgh and Glasgow in twenty hours. These benefits will not be confined to Great Britain. The short distance (only twenty-one miles) from Donaghadee to Port Patrick, has long rendered those places desirable ports for communication with the sister kingdom. This will, doubtless, lead to the establishment of a railroad to Port Patrick, which may be reached in the same time as Edinburgh or Glasgow; and an opportunity will be afforded of effecting a landing in the north of Ireland, within twenty-four hours from the time of leaving London, with the important advantage of crossing the channel at the shortest and the most secure passage.

The undertaking claims especial attention and support, from the additional fact that it will not interfere with existing interests; but, on the contrary, materially benefit the canals and the several isolated railways already formed (or in course of formation), by ultimately becoming the grand duct of these several commercial veins of the kingdom.

Another very important consideration is, the nature of the country through which it is proposed to extend this railroad. The line between London and Norwich, and Dunmow and Askrigg (forty-nine miles beyond York), is extremely favourable for the formation of the railroads; the levels will be so near to the horizontal line as only to permit the perfect drainage of that portion of the railway in cutting. From Askrigg to Carlisle, and from Carlisle to Edinburgh and Glasgow, the country

partakes of a more mixed nature, but presents few obstacles to the formation of the finest levels ever proposed for the construction of a railroad.

ANNUAL EXPENSES AND MAINTENANCE OF THE RAILWAY, AND LOCOMOTIVE POWER NECESSARY FOR THE WORK TO REALISE THE INCOME, PER CONTRA.

	£	s.	d.
Annual expense, calculated at 9-20 of the gross receipts - - - - -	403,513	18	2
Interest and profit on the present traffic - - - - -	493,183	13	2
	<u>£896,697</u>	<u>11</u>	<u>4</u>

ANNUAL RETURN, FOUNDED ON THE PRESENT NUMBER OF PASSENGERS TRAVELLING, AND MERCHANDISE, ETC. CONVEYED IN THAT DIRECTION.

	£	s.	d.
Amount of expected return from passengers - - - - -	514,080	13	4
Amount for carriage of goods and merchandise, between London and the places with which the railway will communicate - - - - -	117,016	18	0
Live stock, as beasts, sheep, calves, horses, pigs, &c. - - - - -	130,460	0	0
Gentlemen's carriages, gigs, &c. - - - - -	20,500	0	0
Parcels by coaches and mails - - - - -	28,640	0	0
Wheat, other grain and flour - - - - -	11,000	0	0
Coals, 300,000 tons, averaging forty miles, at 1½d. per ton per mile - - - - -	75,000	0	0
Manufactures, agricultural produce, manure, and fish - - - - -			
	<u>£896,697</u>	<u>11</u>	<u>4</u>

It will be evident from the above, that an ample return for the outlay may confidently be expected; and it is proper to remark that the estimates are founded on the present actual traffic, without taking into account the great increase that must accrue from the introduction of a railway.

EASTERN COUNTIES RAILWAY.

THE prospectus of the Eastern Counties Railway may well claim attention in the present state of that undertaking, and after the vicissitudes it has gone through.

After a severe contest, the royal assent was given to the bill on the 4th of July, 1836, and from that time the undertaking languished. A disastrous compact with Lord Petre entailed on the Company the penalties of a bond in £100,000, which they had given to obtain Lord Petre's assent to their obtaining the act for the line through his estate, they covenanting that they would obtain a deviation. Failing to do so, Lord Petre exacted, after some litigation, the full amount of his

bond of forfeiture, and other landowners recovered further amounts. The undertaking was restricted to the portion between London and Colchester; but even this portion proceeded slowly on account of the dissensions among the promoters, which ended in the retirement of Mr. Robertson, and the accession of the Liverpool interest. The discount on the shares was long most discouraging; and in 1841 the discount was £15 on £23 paid up, although the line was opened for seventeen miles, the first opening having taken place on the 29th of March, 1843, after repeated delays and disappointments.

In 1843, the Northern and Eastern line was leased on a perpetual guarantee of 5 per cent. dividend on the paid-up capital, and this came into operation on the 1st of January, 1844. Since this time a complete amalgamation has been effected, and this undertaking has become the Cambridge branch.

On the 29th of March, 1843, the Eastern Counties line to Colchester was opened throughout; but it may be observed, that long previously an arrangement had been effected, by which the Northern and Eastern took part in the metropolitan station, and in a joint line from Shoreditch to Stratford.

In 1845, the Liverpool interest had retired, and soon after Mr. Bosanquet, the original chairman, having resigned, Mr. Hudson was prevailed upon to take the chair, and the prospects of the Company have brightened.

The original extent of the line proposed was one hundred and seven miles, and the cost £1,500,000. The actual extent to Colchester is fifty-one miles, and the cost to 4th of July, 1845, £2,954,755 (*Tuck's Manual*). In consequence of the financial schemes, the nominal share capital is, however, much larger than the amount expended; for, at the date cited, it amounted to £3,520,000. The original capital was £1,500,000, in 6,000 shares of £25 each, which, by forfeiture, were reduced to 56,000, while the most stringent and cruel measures were adopted to screw the calls from the shareholders by process of law, thereby aggravating the loss to the unfortunate holders. Subsequently, 88,000 new £25 shares were issued, at 16½ discount! whereby only £768,000 was raised, but a nominal capital of £2,200,000 was created. These new shares were so issued as to average with the old—to produce a share of £14 15s. paid up. Mr. Hudson has lately propounded a scheme, whereby he proposes gradually to bring up the par value of these two classes to £20, by allowing the holders a bonus in proportion to each call made on York Extension stock. This measure is novel, and likely to prove efficient, and to retrieve the character and credit of Eastern Counties stock. In consequence of Mr. Hudson's measures, and the expectations entertained of him, Eastern Counties stock has of late much advanced.

Besides depreciation shares, two batches of preference shares, Nos. 1 and 2, each of 144,000, have been issued. On these £6 13s. 4d. has been paid, and they bear a perpetual guarantee of 5 per cent.

In its present state the capabilities of the undertaking are far from being developed. The communication with Ipswich and Bury has been obtained by the Eastern Union lines; but there is, as yet, no branch to Harwich, and the line to Norwich and Yarmouth has to be made.

EASTERN COUNTIES RAILWAY,

FROM LONDON TO IPSWICH, NORWICH, AND YARMOUTH, BY CHELMSFORD AND COLCHESTER; COMMENCING IN HIGH STREET, SHOREDITCH, PASSING THROUGH BOW, STRATFORD, ILFORD, ROMFORD, BRENTWOOD, INGATESTONE, CHELMSFORD, WITHAM, KELVEDON, COLCHESTER, IPSWICH, EYE; and within an available distance of nearly every place of importance in the Counties of Essex, Suffolk, and Norfolk.

CAPITAL—£1,500,000, in Shares of £25.

DEPOSIT—£1.

PROVISIONAL COMMITTEE.

¹ Henry Bosanquet, Esq.	² John Herapath, Esq.
John Brothers, Esq.	³ Charles Hood, Esq. F.R.A.S.
Fred. Burmester, Esq.	⁴ Henry Luard, Esq.
Rev. John Chevallier, M.D.	Samuel Jones, Esq.
Charles Clarke, Esq.	Richard Preston Prichard, Esq.
William O. Crawford, Esq.	Capt. A. Proctor
Capt. Thomas Crawford	⁵ Thomas Robertson, Esq.
Right Hon. Lord C. Fitzroy, M.P.	⁶ William Tite, Esq.

¹ A relative of the judge and bankers of the same name; became the first chairman of the Company, and held that seat, under every change of policy, until the accession of Mr. Hudson in 1845. The 200 shares held by Mr. Bosanquet, and his recognised integrity, gave him the character of an impartial trustee for the shareholders; but it may be questioned whether his talents and acquirements, although brilliant, at all qualified him for his administrative duties. His personal integrity could not prevent the embezzlement and profligate expenditure of others; his mildness and pliability of demeanour could not control the dissensions of his subordinates and colleagues; his goodness of intention could not withstand ruinous bargains and destructive financial expedients; his industry and diligence in the conduct of details could not forward the opening of the undertaking, foster the traffic, or secure the careful working of the line. Esteemed by most, and beloved by many, on his retirement, Mr. Bosanquet received a splendid testimonial, expressive of the sentiments of his friends in the undertaking, and he has since limited his exertions to his duties as a director. It is no disparagement to Mr. Bosanquet to say that, in an arduous situation, Mr. Hudson has shown greater energy of purpose, and realised greater results.

² The proprietor and editor of *Herapath's Railway Journal*. Mr. Herapath was about this time engaged in the promotion of several railway undertakings—a Brighton line of which he was entitled general inspector of railways, and a Salisbury line. Mr. Herapath's connection with the Eastern Counties Company was productive of very marked results. Brought into connection with Mr. J. C. Robertson, he contributed to the *Mechanics' Magazine*, some of the earliest, we believe the first papers, on the mathematics of railways. When Mr. Robertson promoted the Eastern Counties Railway Company, one of his earliest colleagues was Mr. Herapath, who exhibited his usual energy in working for the undertaking, which he canvassed as one of a deputation from the committee throughout the eastern counties. Dissension, however, arose between the two friends and coadjutors. According to some, Mr. Herapath's being interfered with in the *Mechanics' Magazine*; according to others, difference of temper on the

BANKERS—⁷London and Westminster Bank, 37, Throgmorton Street; 12, Waterloo Place. Messrs. Gurney & Co. Norwich and Yarmouth

STANDING COUNSEL—William Harrison, Esq.

SOLICITORS—⁸Messrs. Blunt, Roy, Blunt, and Duncan; William Dimes, Esq.

ENGINEERS—⁹Charles Vignoles, Esq. F.R.A.S. M.I.C.R.; ¹⁰John Braithwaite, Esq.

SECRETARY—¹¹J. Clinton Robertson, Esq.

part of Mr. Herapath, and disappointment on account of not being appointed secretary. Mr. Herapath retired—dissension ripened to bitter enmity, and Mr. Herapath soon obtained a powerful engine for assailing Mr. Robertson and his company, by becoming the proprietor of the *Railway Magazine*, which had been established by Lieutenant George Walter, R.M., in 1835. Through this medium, Mr. Herapath became an open assailant, and with such effect, that every exertion was used to counteract his efforts. An action for libel, brought by Mr. Robertson, resulted in a nominal verdict; but a more effectual step was the establishment of the *Railway Times* in 1837, as a weekly newspaper against the monthly magazine. Messrs. Robertson and Braithwaite co-operated in this enterprise, and it was said to be supported from the funds of the Eastern Counties Company. Thus from the quarrel of Messrs. Herapath and Robertson, the railway press was propagated, most of the existing publications being offshoots of the rivals, as the *Railway Record* is of the *Railway Times*. Mr. Herapath now continued his campaign, as much from the determination not to be put down, as from the indulgence of animosity, and circumstances seconded his endeavours. Many of the shareholders were indisposed to the prosecution of the undertaking; others, as Mr. Cobbold's party, wished its prosecution at the Norfolk end; and, lastly, the Liverpool party had begun its southern campaign. In 1839, the Liverpool men were seized with a fit of railway domination, and they made a dead set to get the management of several of the southern lines, and to work them for their own purposes. They succeeded in the Eastern Counties case after a hard struggle, and supplanted Mr. Robertson and the Cobbold party.

² Now a director, and, with Mr. Bosanquet, the only remaining original directors; is an iron merchant, and the author of several esteemed practical works, particularly on combustion and the strength of iron; has laboured efficiently in the management of the undertaking.

⁴ Afterwards chairman of the West London Railway.

⁶ Not related to No. 11.

⁶ The architect of the Royal Exchange, deputy-chairman of the Globe Assurance, a great railway surveyor, house valuer and architect, largely concerned in the South Western, Blackwall, &c.

⁷ Bankers introduced by Mr. Tite and Mr. Robertson.

⁸ Were solicitors to the Company until this year. Mr. John Duncan was the partner who managed their business in the Eastern Counties Railway, as he did a great many concerns then. Mr. Duncan having retired from the firm was appointed law clerk, at £700 a year, a post which he still holds. Mr. Duncan has kept his office under every administration, and has been the only real and effective manager of the undertaking, in its several departments, though his influence has been frequently neutralised by the leading parties.

⁹ The original consulting engineer of the undertaking.

¹⁰ Mr. Braithwaite became the sole engineer on the passing of the act, and, although much blamed for delays and want of punctuality, successfully battled with a most difficult passage through the London clay, and discovered an originality in his works of art, which was seconded by economy. The excess of estimate must, therefore, be removed from his shoulders.

The superiority of railways, as a means of inland transport, may now be considered as incontrovertibly established. ¹² The numerous acts for the formation of railways which have been passed by the legislature during the last ten years—all of them, after inquiries more or less extensive into the merits of this system of conveyance, and some in the teeth of opposition unexampled in parliamentary practice for obstinacy and costliness; and the great success which has attended such railways as have been brought into a working state, form a mass of authority in their favour, which those most opposed to them, whether from prejudice or interest, may in vain hope to overcome. It has been again and again proved, to the perfect satisfaction of both houses of parliament, that railways furnish a far cheaper, safer, and more expeditious mode of conveyance for passengers and most kinds of goods, than any other yet devised; that, as soon as the railway has been opened in any district, it has not only met all the demands of the traffic existing at the time, but increased that traffic to a degree and with a rapidity wholly without example; that, wherever railways abound most, there the greatest rise in the value of land has been observed, and the most rapid strides have been made in agricultural, manufacturing, and commercial prosperity; that they have not only materially reduced the poor-rates of every district they intersect, by furnishing profitable occupation to large numbers of the unemployed poor, but have still further relieved the old rate-payers, by contributing largely towards the reduced rates; and that, while thus conferring incalculable benefits on the community at large, they have yielded to their proprietaries a quicker return on the capital invested in their formation, than was ever obtained from any other description of public undertaking.

A system which has proved so beneficial in every part of the country where it has been tried, must, of course, prove equally so in every other part, under similar circumstances. Indeed, there are few districts which can now remain long without railways, unless their inhabitants are prepared to be completely distanced in wealth and importance. The adoption of the system on all the great lines of communication throughout the country is become, in fact, no longer a question of choice, but of time.

Among the wealthy districts of England which are yet strangers to railway conveyance, there is, perhaps, none where it could be introduced with greater advantage than that portion of the eastern coast which comprehends Essex, Suffolk, and Norfolk. These counties are remark-

¹¹ The eminent patent agent and editor of the *Mechanics' Magazine*, which he founded, was the projector of the Eastern Counties, and the progress of his connection with it we have detailed under No. 2. The talented editor of the *Railway Record* is a relative of this gentleman. Mr. Robertson was succeeded by Mr. Archibald Bulkeley, on the appointment of the Liverpool interest; but the importance of the office declined on the appointment of a Liverpool representative, Mr. Hall, as manager. In 1845, Mr. Bulkeley retired, and was succeeded by Mr. C. P. Roney, secretary of the Cambridge and Lincoln Extension line.

¹² This prospectus, which is a very able document, was written by Mr. Robertson, though it has been supposed to belong to Mr. Duncan, who wrote most of these documents for the companies with which he was connected, and, from his business knowledge, had been considered one of the ablest hands in this department. Most of the pamphlets on the London and Westminster Bank controversy came from his pen.

able for presenting the greatest continuous extent of level country in the whole kingdom—a circumstance which pre-eminently fits them for participating in the benefits of the railway system. They include some of the richest and most cultivated portions in England—those portions from which the metropolis draws its chief supplies of corn, flour, malt, cattle, sheep, pigs, poultry, vegetables, &c.

Nearly the whole of the fish, too, consumed in the metropolis, comes from the eastern coast; but, in consequence of the distance by water, and the frequent detention of the fishing smacks by south-westerly winds at the mouth of the Thames, the supply is by no means equal to the demand; the prices are nearly at all times extravagantly high, and not unfrequently whole cargoes are entirely spoiled. But as soon as the Eastern Counties Railway is opened, the fishermen of Yarmouth, Lowestoft, Southwold, Colchester, Harwich, &c., will be enabled to send the produce of their nets every night to the metropolis, and to all the towns and villages along and within reach of the line; the necessary result of which facility and regularity of transport will be, not only a vast increase in the consumption, but a great improvement in the quality, and reduction in the price, of this most valuable article of food.¹³

As the existing principal line of road indicates the main stream in which the traffic of the country naturally runs, the intended railway will follow as nearly as practicable the same course, and thus serve the purpose of a grand trunk, from which any number of branch railways may afterwards be formed. In consequence of the very level character of the country, there will not be a single tunnel required, nor even an embankment of more than 30 feet high; and the greatest rise in any part of the line will not exceed 1 in 400 feet.

The towns which the line will pass through, or closely approach, will comprehend nearly all those of first-rate importance in the three counties; and at the metropolitan end, it will interfere with no important buildings, though it will advance much farther into the heart of the city than any of the other railways now in progress. Throughout the whole of its course, moreover, to Norwich and Yarmouth, it will not intersect a single park or pleasure ground.

As soon as twelve miles of the railway are completed, at the metropolitan end, the carrying of passengers may be commenced on it, between London, and the populous towns and villages of Bow, Stratford, West Ham, Plaistow, Ilford, and Romford, with the certainty of a large return from these places alone; or should it be deemed expedient (as it probably would) to execute simultaneously the four portions of the line between London and Romford, Chelmsford, and Colchester, Colchester and Ipswich, and Norwich and Yarmouth, the whole of these portions might be at work within eighteen months, and the intermediate and connecting spaces be filled up, so as to make the entire line complete before the lapse of two years from the commencement of operations.

Forming, as such a railway would do, the principal and favourite medium of transport for more than 1,000,000 of people (including the portion of the metropolitan population, connected by business and

¹³ This traffic has not, as yet, proved of value, nor been sufficiently cultivated.

family ties with the Eastern Counties)—passing everywhere through a country not only yielding much, but requiring much in return—touching at many large and well-frequented markets—and having no canals or other railways to compete with, it would be contrary to all experience if it did not pay well. The question of profit may, however, be considered as placed beyond every reasonable doubt, by the following summary of the estimates of expenditure and revenue, which have been prepared with great care, and will, in due time, be verified to the satisfaction of parliament.

	Present Expense.	Expense by Railway.
Branch A. Passengers by public conveyances	£172,245	£12,167
Parcels by ditto - - - -	24,335	24,335
Mail bags by ditto - - - -	6,164	5,000
" B. Passengers by private conveyances -	97,219	17,962
" C. Merchandise and provisions conveyed by land - - - -	396,824	198,412
" D. Corn, flour, malt, &c., conveyed coastwise - - - -	79,854	49,909
" E. Cattle, sheep, lambs, pigs, poultry, &c., conveyed by land - - - -	273,468	157,053
" F. Coals and manure - - - -	74,172	18,493
" G. Fish - - - -	-	40,000
	£1,124,281	£632,841

Suppose the railway were to absorb two-thirds of the existing traffic, that would give - - -	421,984
Deduct annual expense of working the railway	200,000

Clear residue - - - - -	£221,894
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Which will allow a dividend of near 15 per cent. on the capital of £1,500,000, without taking into account the great increase which the railway will, in all probability, occasion in the general trade of the district.¹⁴

ROUTE OF THE EASTERN COUNTIES RAILWAY.

The Eastern Counties Railway—so called, because it is designed to facilitate in a particular manner the traffic between London and the three great eastern counties of Essex, Suffolk, and Norfolk—will commence in High Street, Shoreditch, within less than a mile of the Royal Exchange, being the only one of the great railways which will advance into the heart of the metropolis; it will proceed thence along the south side of Globe Town to Bow, where it will cross, by a handsome viaduct, the River Lea. Taking then a slight bend, it will intersect the northern precincts of Stratford, and at this place be within a few minutes' drive of the populous villages of West-Ham and Plaistow. Then skirting the southern borders of Epping Forest, it will touch at Ilford, leaving Barking one and a half mile to the right;

¹⁴ The estimate of traffic, once impugned as so exceedingly extravagant, is fair in the progress of the Eastern Counties Railway to be realised.

after which, crossing the turnpike road, at the eighth-mile stone, it will advance to Romford, leaving Hornchurch about one and a half mile to the right and Chipping Ongar about eight miles to the left. From Romford it will advance through the valleys, in another nearly straight line, as far as Brentwood, passing in the rear of Hare Hall, and crossing the head of the approach to Thorndon Hall, but without interfering with the pleasure grounds of either. Still keeping the line of the valleys, it will go close to Shenfield, Mountnessing Street, and Ingatstone, all on the left, and within about three miles of Billericay on the right. From Ingatstone it will incline southwards to near White's Bridge, leaving the Hyde and Margaretting Street at some furlongs' distance on the left; taking then a northerly direction, it will pass through High Elms and Widford (crossing the turnpike road at the latter place), go round the northern suburbs of Chelmsford, and up to Springfield, avoiding The Hall. At Chelmsford it will be within five miles of Great Waltham, and twelve of Dunmow. From Springfield it will proceed in a direction parallel to the turnpike road (keeping clear of Boreham House and grounds) as far as Hatfield Bury, at which point it will be only seven miles from the important sea-port town of Maldon. It will then diverge a little towards the left, so as to pass on the north side of Witham, between The Grove and Chipping Hill, crossing the road to Braintree, distant about seven miles. It will then keep nearing the turnpike road again, as far as Mark's Tey; touching at Rivenhall End and Kelvedon on the right, crossing the Blackwater between Kelvedon and Feering, and at Feering leaving Coggeshall within two miles to the left. On reaching Mark's Tey, it will cross the road between Coggeshall and Colchester, close to its junction with the Great London Road, and a little further on, the Aldam road; after which, it will go straight forward to Hole's Farm, where it will be carried by a viaduct over the Colne, and thence round Colchester, between the North Bridge and Mile End. Here it will be within nine miles of Halstead and twelve of Sudbury. Crossing the London Road at Dilbridge Farm, it will then turn to the left, proceed along the southern front of Bullock Wood to Pickett's Hill (close to Ardeigh), skirt Dedham Heath, and at Jupe's Hill be within one mile of Dedham, one and a half of Manningtree, and fifteen of Harwich. Immediately beyond Jupe's Hill it will cross the valley and river of the Stour (leaving Essex and entering Suffolk), then intersecting the enclosures of Bergholt Heath, and leaving Bentley Tankard the turnpike road to Norwich, a little to the left, pass within five miles of Hadleigh. It will next go through Old Hall Wood, then over the Washbrook near Copdock, and diverging considerably towards the east, cross the valley and river of the Orwell, just above Halford Bridge, and approximate to the town of Ipswich at the Barrack enclosure, but without interfering with any of the parks or principal buildings. Needham will be here seven and a half miles distant from the line, Stowmarket ten and a half, Bury twenty-five, Woodbridge seven, Framlingham ten, Saxmundham nineteen, Oxford twenty-one, Aldborough twenty-five, and Southwold twenty-nine. From Ipswich the railway will recurve to a direction nearly due north, and then proceed by Westerfield Green, Henley Green, Ashbocken Church, Thorndon Green, and across the Waveney to Scole Inn, passing close

by Hemlingham, Debenham, and Eye, and being at Scole Inn within twenty-five miles of Thetford. From Scole Inn it will run parallel to the turnpike road, at a distance seldom exceeding a quarter of a mile, till it comes opposite the Bird-in-Hand, near the 103rd milestone; leaving on the left Diss, distance two and a half miles, Buckenham seven, Wymondham seven, and Attleborough nineteen and a half; and on the right, Harleston, distant eight miles, Bungay fifteen, and Beccles twenty-one. Taking then a sweep to the eastward round Shotesham Park, it will proceed along the valley by Stoke Holy Cross and Castor, and crossing the river Yare, near Trowse, above its junction with the navigable branch into Norwich, will terminate, as regards Norwich and the towns to the northward of that city, in Carrow Abbey Field.

The distance from London to Norwich is, by the turnpike road, 111 miles; by the railway it will be reduced to 107, being only eight miles more than a straight line drawn from the metropolis.

Between Trowse and the Norwich termination the railway will turn off eastward to Yarmouth, passing below Crown Point and Wittingham Hall, crossing the Yare, and proceeding by Postwick and Brundall to Bradiston, whence it will go in a perfectly straight line for upwards of ten miles; after which it will curve round the northern extremity of Breydon Water, and terminate on the eastern side of the new suspension bridge at Yarmouth. The distance from Norwich to Yarmouth by the railway, will be eighteen miles, and from London to Yarmouth 120 miles.

Applications for shares to be made (if by letter, post-paid), to the secretary, or any of the bankers or solicitors to the Company. Prospectuses, and any further information desired, may be obtained at the Company's office, 18, Austin Friars.

J. C. ROBERTSON, Secretary.

Eastern Counties Railway Office, October 20th, 1835.

BANKERS AND AGENTS IN THE COUNTRY FOR THE EASTERN
COUNTIES RAILWAY COMPANY.

		BANKERS.	AGENTS.
Norwich	-	} Messrs. Gurney and Co.	{ Messrs. Sewell, Blake, Keith, and Blake
Yarmouth	-		
Diss	-	-	Messrs. Taylor & Son
Eye	-	Messrs. Gurney and Co.	Thomas French, Esq.
Harleston	-	} Messrs. Gurney and Co.	{ Messrs. Carthew and Son
Framlingham	-		
Bury St. Edmund's	-	Messrs. Oaks, Bevan, & Co.	James Borton, Esq.
Woodbridge	-	Messrs. Alexanders and Co.	Rolla Rouse, Esq.
Ipswich	-	{ Messrs. Alexanders and Co. }	¹⁵ John Chevalier
		{ Messrs. Bacon and Co. }	Cobbold, Esq.
Hadleigh	-	Messrs. Alexanders and Co.	Henry Offord, Esq.
Colchester	-	Messrs. Mills, Bawtree, & Co.	Wm. Sparling, Esq.

¹⁵ Mr. Cobbold, the banker and solicitor, took a strong part to force the directors to apply the funds to the northern part of the line. Being defeated in this, he established the Eastern Union Railway from Colchester to Ipswich, and a line from Ipswich to Bury St. Edmund's.

Braintree	-	} Messrs. Sparrow and Co.	{ Messrs. Copland and Sons
Chelmsford	-		
Romford	-	Messrs. Johnson and Co.	Wasey Sterry, Esq.
Stratford	-	-	George Dacre, Esq.
King's Lynn	-	} Messrs. Gurney and Co.	{ Messrs. Lane and Wilson
Boston	-		
		National Provincial Bank	Messrs. Holloway and Kenrick

BIRMINGHAM, BRISTOL, AND THAMES JUNCTION RAILWAY,

TO CONNECT THE BIRMINGHAM AND GREAT WESTERN RAILWAYS WITH THE SOUTH-WESTERN DISTRICTS OF THE METROPOLIS, AND COMMUNICATE WITH THE RIVER THAMES THROUGH THE MEDIUM OF THE KENSINGTON CANAL.*

CAPITAL—£150,000, in 7,500 Shares, of £20 each.

DEPOSIT—£1 per Share.

PROVISIONAL COMMITTEE.

Samuel Beachcroft, Esq.	|	Rear-Admiral Honyman
John Britton, Esq. F.S.A.		Henry Luard, Esq.
Frederick Burmester, Esq.		William Mountford Nurse, Esq.
J. C. Carpue, Esq. F.R.S.		Robert Playfair, Esq.
William D. Chowne, Esq. M.D.		Curtis Reid, Esq.
Thomas Gibson, Esq.		William Jesser Sturch, Esq.
William Gunston, Esq.		Henry Whitehead, Esq.

With power to add to their number

BANKERS—The London and Westminster Bank, Throgmorton Street, and 9, Waterloo Place

SOLICITORS—Messrs. Blunt, Roy, Blunt, and Duncan

* Extract from "An Account of the Proceedings of the Great Western Railway Company," 1834.—At this time negotiations were opened with the proprietors of the Kensington Canal, with a view to render that communication with the river available to the purposes of the railway traffic. It was found that this canal, which at present is but little in use, was, in fact, perfectly adapted to all the purposes of commercial traffic, or, at all events, capable of being made so at very little expense. It possessed a large basin situate at Kensington, near to which the line of the railway passed, where barges could load and unload at all hours, and from which any wharf on the river, as far as the London Docks, could be reached with ease in the course of one tide. Page 13.—This was with reference to the then proposed terminus of the Great Western Railway, for its passenger traffic, at Old Brompton, which opposition obliged the Company to abandon, and a great proportion of the advantages of which, without the opposition, the proposed Junction Railway possesses in its terminus being at Kensington; goods passing to the river in both cases by the same medium—that above referred to—the Kensington Canal.

ENGINEER—William Hosking, Esq. F.S.A.
 SURVEYORS—Messrs. John and Alfred White
 SECRETARY—Mr. John Thompson
 Offices—18, Austin Friars

The common terminus and starting-place of the London and Birmingham and Great Western, or Bristol Railways, is at Camden Town, for water-borne goods, and at Somers' Town for passengers; both of which places are distant and very inconvenient of access from all the populous and wealthy south-western districts and suburbs of London, on both sides of the river. These termini are also inconveniently situated for the reception and delivery of goods and produce from and to the London, St. Katherine, and other great commercial docks; and most especially so, for the various markets, wharfs, and warehouses, upon and near to the river.

The proposed Junction Railway will obviate most of these inconveniences, and add greatly to the value and importance of the grand channels of communication referred to, by being the medium of their passenger-traffic from the greatest part of the city of Westminster, especially the districts of it west of Regent Street, and southward and westward of Piccadilly and Charing Cross, and including the wealthy and increasing neighbourhood of Belgrave and Eaton Squares; from the large and populous parishes of Chelsea, Kensington, Hammersmith, and Fulham, and by Westminster, Vauxhall, Battersea, and Putney Bridges; from Lambeth, Kennington, Walworth, Camberwell, Clapham, Wandsworth, Putney, and, indeed, from all those parts of Surrey which have more ready access to Kensington than to Somers' Town. A communication may also be opened with the Southampton Railway by Battersea Bridge, and so connect the north of England with the south, without the necessity of passing through the heart of London. This junction will also form a direct, cheap, and rapid means of communication between the Birmingham and Great Western Railways, and the Paddington Canal, and all the wharfs, warehouses, markets, and docks upon the Thames, from Chelsea to Limehouse.

A railway, to be called the Birmingham, Bristol, and Thames Junction Railway, is proposed to be made from the point of union of the London and Birmingham and Great Western Railways, which will be north-west of the second tunnel from London, and near Holsdon Green, at about five miles and a half from their common terminus at Somers' Town, in a direct line to a passenger depôt in the Hammersmith Road, and to the basin of the Kensington Canal; which latter affords the means of delivering, at any point along the whole course of the river on both sides, through London, down to the St. Katherine and the London Docks, within one tide. Thus, goods will reach the river from the junction depôt by about two miles and three quarters of railway and less than two miles of canal; whereas, from the same point where the two great inland railways unite, continuing on their line, goods would have to be carried five miles and a half by railway to Camden Town, and seven miles by a tedious canal to Limehouse, from whence they must be sent, when the tide shall serve, for delivery at any of the docks, wharfs

or warehouses on the river, whether above or below. Moreover, the Kensington, being a tide canal, is as free from liability to be locked up by frost as the river itself—an advantage not possessed by the inland canal.

Travellers, also, to and from the parts of London above-mentioned, will save a considerable proportion of the first and last five miles and a half of the journey, and avoid two tunnels which occur between Somers' Town and Holsdon Green.

The Birmingham, Bristol, and Thames Junction Railway, will not be interfered with by any other that has been projected, since no one but this approaches the west-end of the town at all; and no other that proposes to communicate with the two great inland railways referred to, possesses any means of access to the river.

There are only seven proprietors of land in the course of the proposed line, and the communication may be effected without taking down a single house, as the line passes almost exclusively through field land, and the Common of Wormholt Scrubs.

No distinct estimate can be formed of the amount of passenger traffic that the Junction Railway will command; but a glance at a map of London and its environs, and the reflection that most of the more important hotels are at the west-end of the town, as well as that most of the private carriage traffic is from and to it, will show that at least one-fourth, perhaps one-third of the whole number of persons, and certainly two-thirds of the private carriages going, or arriving, by the London and Birmingham and Great Western Railways, will pass by the proposed Junction Railway. In the same manner the amount of tonnage likely to be required to pass to and from the river and its adjuncts cannot amount to less than one-third. The income derivable from these sources, at a moderate rate for transit, would be very considerable, taking the amount of persons and tons from the estimates of the London and Birmingham and Great Western Railways; and that they are not thought to be exaggerated, is evinced by the high appreciation of their shares at the present time. To this may be added the amount which will arise from the proposed junction forming a direct communication between the Paddington Canal and the river.

The capital necessary to effect the intended object will not exceed £150,000, which amount it is proposed to raise in 7,500 shares of £20 each, upon which a deposit will be required of £1 each, to meet the expenses of obtaining an act of parliament, and other necessary charges and contingencies.

An arrangement will be proposed to the proprietors of the Kensington Canal, which will be mutually advantageous.

Applications for shares, addressed to the provisional committee, will be received by the bankers and solicitors, and by the provisional secretary, at the Company's offices, 18, Austin Friars.¹

¹ This Company, as is well known, has proved a complete failure. It is called the West London, or *Punch's Railway*, and is sold to the London and North Western and Great Western Companies.

LONDON WEST-END RAILWAY,

TO CONNECT THE BIRMINGHAM AND GREAT WESTERN RAILWAYS, BY THE BIRMINGHAM, BRISTOL, AND THAMES JUNCTION, WITH THE WESTERN AND SOUTHERN DISTRICTS OF THE METROPOLIS, AS AN EXTENSION OF THE RAILWAY OF THE LATTER TO A STATION NEAR HYDE PARK CORNER.

CAPITAL—£75,000, in 3,750 Shares, of £20 each.

In addition to the existing subscribed Capital of £150,000, under the Act of Parliament incorporating the Birmingham, Bristol, and Thames Junction Railway Company.

DIRECTORS.

William Gunston, Esq. Chairman
Henry Luard, Esq. Deputy Chairman

John Britton, Esq. F.S.A.	Robert Playfair, Esq.
J. C. Carpue, Esq. F.R.S.	William Jesser Sturch, Esq.
The Hon. Capt. Edwardes, R.N.	Horace Twiss, Esq. M.P. K.C.
Robert Gunter, Esq.	Henry Whitehead, Esq.
Sir John Scott Lillie	George Whitehead, Esq.

BANKERS—The London and Westminster Bank

SOLICITORS—Messrs. Roy, Blunt, Duncan, and Johnston

ENGINEER—William Hosking, Esq. F.S.A.

SURVEYOR—John White, Esq.

SECRETARY—John Thompson, Esq.

Office—26, Austin Friars

ADDRESS.

In claiming attention to such a work as that which the title describes, it is thought desirable, for the information of proprietors who are resident in the country, and to whom the immense commercial importance of the west-end of London may not be well known, to prefix the following observations to the subjoined statement of the position and intentions of the Birmingham, Bristol, and Thames Junction Railway Company.

The "west-end of the town" comprises almost all the rank and wealth of London—the royal palaces, the town-houses of all the nobility and landed gentry, and the residences of the wealthiest merchants, are seated in the quarter of the metropolis known by that name. The parliament houses and offices—the offices of the government, and the residences of the officers—the clubs—and all the principal hotels, which are frequented by members of both houses of parliament and their families, by the foreign ministers, and by travellers of every grade—are at the west-end of the town. The tide of fashion has for centuries past been setting westward, and within the last few

years it has reached, and is fast surrounding the station adopted for the terminus of the London West-end Railway. It may appear strange, under these considerations, that up to the present time no one of the great inland lines of railway approaches the "west-end." The London and Birmingham Railway goes to Somers' Town, and the Great Western proposes to terminate at Paddington; but the Birmingham, Bristol, and Thames Junction Railway, affords to them both, in its way to the Thames, their best and almost only means of communication with the "west-end;" and this communication the Company propose to improve and perfect, by extending the line to the immediate vicinity of Hyde Park Corner, which is the recognised portal of that part of the town.

The advantage now to be obtained, it may be remarked, had not been overlooked by the Great Western Railway Company, who made two attempts to approach this quarter, and were defeated by local opposition. The interests opposed to them, however, are not injuriously affected by the present plan, and the individuals composing that opposition are, for the most part, favourably disposed to the present undertaking.

Under these circumstances, and taking into consideration the importance a ready communication with the west-end of London must be of to the business of the London and Birmingham, and the Great Western Railways, and consequently to the public, who will have to use them, it will be evident to the commonest observer that a railway leading to those great lines from a station hardly removed from Hyde Park Corner must be highly profitable to its proprietors.

STATEMENT.

The Birmingham, Bristol, and Thames Junction Railway, was at first proposed to facilitate the access to and from the extreme western and south-western districts of the metropolis and the London and Birmingham and Great Western Railways, and to open a direct and economical communication for the trade of those great lines of railway to the commercial parts of London, since their common terminus in a remote northern suburb was alike inconvenient for the passenger-traffic of the districts referred to, and for merchandise and produce to be delivered at, or received from, the markets, wharfs, warehouses, and docks, which lie upon and near to the River Thames in its course through London.

The importance and utility of the undertaking have been recognised by the legislature, and an act of parliament has incorporated the Birmingham, Bristol, and Thames Junction Railway Company for the purpose of carrying it into effect. By this act the Company obtained what may be termed exclusive possession of the access to the west-end of London, as their line runs from north to south from the London and Birmingham Railway, at a point between the Harrow Road and the Grand Junction Canal near Harlesdon Green, to the Thames, so that no other railway can approach the town on that side without crossing it, which the legislature will not allow to be done without the consent of this Company.

Feeling the importance of their position, and that it is incumbent upon them, for the public convenience, as well as to improve the advan-

tages they possess, the Company have resolved to extend the railway to a station near Hyde Park Corner, to yield the facilities which railways offer to the town itself, instead of leaving the stations in suburbs, and rendering it necessary to perform a journey before any of them can be reached.

When the Birmingham, Bristol, and Thames Junction Railway was first submitted to the public, the Great Western Railway Company had just obtained an act which required them to run their line in upon that of the London and Birmingham Railway Company at the point before intimated, near Harlesdon Green. From this point the junction line with the Thames and the western parts of the town was laid down, the railway being intended to terminate at the basin of the Kensington Canal, with a communication to the Thames through that canal. The tedious round of the Regent's Canal* to Limehouse, which is itself altogether too low down the river for the trade of London, was the only mode, except by carting through the streets as heretofore, by which goods could be taken to or from the common terminus beyond Camden Town of the two great inland railways and the London and St. Katherine and other docks, or any of the wharfs, warehouses, and markets of the metropolis, upon and near to the river. By means of the Thames Junction Railway, the whole distance from the Camden Town, or Chalk Farm station to the river by the Regent's Canal, is saved, as the railway and the Kensington Canal together hardly exceed in extent the distance saved upon the London and Birmingham Railway alone; so that a parcel of goods may reach the Thames in the course of delivery by the junction line at the same cost, and nearly within the same time that would have been required to deliver it at the Camden Town terminus.

The merits of the Kensington Canal, as the medium of communication with the river for merchandise, are best stated in the following extract from "An account of the proceedings of the Great Western Railway Company," after their defeat in parliament in 1834, when they had attempted to reach Old Brompton with the railway, intending to make the same use of the Kensington Canal that is now proposed to be made of it by the Birmingham, Bristol, and Thames Junction Railway Company:—"At this time negotiations were opened with the proprietors of the Kensington Canal, with a view to render that communication with the river available to the purposes of the railway traffic. It was found that this canal, which at present is but little in use, was, in fact, perfectly adapted to all the purposes of commercial traffic, or, at all events, capable of being made so at a very little expense. It possessed a large basin, situate at Kensington, near to which the line of the railway passed, where barges could load and unload at all hours, and from which any wharf on the river, as far as the London Docks, could be reached with ease in the course of one tide." It may be added, moreover, that this, being a tide-canal, is no more liable to be locked

* The term "tedious round," as applied to this canal, will be better understood when it is stated that its length from the railway station, beyond Camden Town to Limehouse, is seven miles; that in that distance twelve locks, thirty bridges, and a low tunnel, half a mile in length, occur, and that no two barges can meet and pass each other, either in the tunnel or under any of the bridges!—See Evidence before the Lords upon the Great Western Railway. Session 1834.

up by frost than the Thames itself is; whereas the Regent's Canal, like all inland canals, is liable to be frozen up, and thereby rendered un navigable for weeks together.

Since the incorporation of this Company, however, a further important advantage has arisen to it, from the abandonment by the Great Western Company of their intention to join the London and Birmingham Railway. The Great Western Railway will now be carried to Paddington, and will communicate, by consent, with the Birmingham, Bristol, and Thames Junction Railway, at Wormholt Scrubs, where a station will be formed for mutual convenience, from which the business of the Great Western Railway with the commercial parts of London will pass along the junction line; since its only other means of receiving and delivering goods from and to the docks, and other commercial establishments upon the river, would be by carting through the whole extent of the town, or by the whole nine-mile round of the Regent's Canal, with its tunnel and numerous locks and bridges, by the way of Camden Town, Islington, and Hackney, to Limehouse.

Thus, almost the whole of the merchandise and produce-traffic with London, of the west of England, Wales, and Ireland, by the Great Western Railway—a great proportion of that of the centre and north of England, and of the west of Scotland, including the great manufacturing districts of which Birmingham, Manchester, and Glasgow are the capitals, by the London and Birmingham Railway—will pass by the Birmingham, Bristol, and Thames Junction, as the easiest, the most direct, and by far the most economical means of conveyance to and from the Thames.

In addition to this, there must be a large amount of business carried on by the Thames Junction line between the river and the Grand Junction Canal, upon which latter it has been arranged to form an extensive wharf in connection with the railway; since that great channel of commerce has no communication at present with the Thames between Brentford and Limehouse, and to the latter point only by the same tedious and inconvenient round as that referred to for the two great railways. When the facility this new outlet will afford to the Grand Junction Canal is considered, with reference to the fact that the tolls now received upon it amount to £180,000 per annum, it will be evident that the present undertaking must benefit largely from a connection with that prosperous concern.

The importance of the Birmingham, Bristol, and Thames Junction, as the most advantageous course for the merchandise and produce-traffic of the London and Birmingham, and the Great Western Railways, and as an outlet for much of the business of the Grand Junction Canal being established, it remains to show its value as an auxiliary in the passenger-traffic of the two great railways, and to develop the means by which it may be established as a principal arm in facilitating that branch of their business, and so much the more materially benefit its own proprietors.

The Company showed, to the satisfaction of a committee of the House of Commons, that their passenger-station at Kensington Crescent would command, at the least, one-fifth of the passenger-traffic of the London and Birmingham, and the Great Western Rail-

ways.* That station is two miles and a half from Hyde Park Corner; but still comparing the distances and the facilities of approach to and from all the western and south-western districts of the metropolis, and the then proposed common passenger-station of the London and Birmingham, and the Great Western Railways, at Somers' Town, with the station at Kensington, the importance of the Junction Railway to the public was at once conceded and recognised. As the Company found, however, upon an investigation, that there were hardly any difficulties in the way of greatly enhancing its value to themselves, and its utility to the public, by extending the line of railway to the best possible position at the west-end of the town for commanding much of the most valuable passenger-traffic, they immediately resolved upon an application to parliament for power to do so. The subjoined extracts from the report of the directors to the proprietors on the subject of the extension will, it is believed, fully justify the Company in adopting this resolution, and in fixing upon a spot at Knightsbridge, within a few hundred yards of Hyde Park Corner, as the station to which the railway should be brought:—

“The convenience which passengers from the north and west of England must derive from a railway continued to the immediate neighbourhood of Hyde Park Corner, has pressed itself so forcibly on the attention of the directors of this Company, that, after mature consideration of the most eligible line for such a work, of the obstacles as well as facilities which may attend its construction, and of the total expense of its completion, they have thought it their duty to make the following report to the proprietors at large:—

“It appears, on the most careful examination, that the most eligible line for the objects contemplated would be from the north side of the Hammersmith Road, through Kensington Crescent, by the open fields and garden-ground on the north of Brompton to Knightsbridge Green, which would thus become the terminus of this Company's railway. By this extension, the traveller coming from the Great Western or Birmingham Railways would be brought to a spacious, open, accessible landing-place, frequented by public conveyances of every kind, and situate within less than half a mile of Piccadilly, instead of ending his railway journey, as he otherwise must end it, at the remoter points of Paddington or Somers' Town; and independently of the advantage of this proximity, the directors are persuaded that a large proportion of travellers would adopt the Knightsbridge route, were it only to avoid the two tunnels which must be encountered by the Somers' Town approach.

“The suggested extension of the line presents peculiar facilities in an engineering point of view. The levels are such as to obviate all difficulty in crossing the roads, while the necessity which the construc-

* The amount calculated was, of course, taken upon the cases of those two railways before parliament; but when it is remembered that the proportion applies to the amount, whatever extent it may reach, it will be perceived that the success of the London and Birmingham, and the Great Western Railways, must insure that of the Birmingham, Bristol, and Thames Junction; and the numerous branches and feeders adding to the amount of the traffic of the two great inland lines, far beyond what was contemplated, will add, in the same proportion, to the business, and consequent profits of this Company.

tion of the works will impose on the Company, of deepening and straightening the intervening sewers, will materially improve the drainage, and consequently the healthiness of the district.

“The railway is proposed to be depressed below the general surface, so that either by walls, or by fences, it may be wholly or partially masked, as may best suit the wishes of the proprietors and occupiers of the land which it may intersect.

“From Kensington Crescent to Montpelier Row, which is within 300 yards of the proposed terminus at Knightsbridge Green, no important obstacle presents itself, as the railway will interfere with not more than three or four houses, and those not of a costly description; and although at and from Montpelier Row to Knightsbridge Green itself, the number of buildings to be removed, and consequently the cost of proceeding, will necessarily be greater, yet the directors believe that the whole of this property may be obtained at a moderate rate, some portion of it indeed being already in the market.

“A very important and favourable consideration is, that, for upwards of one-half of the whole length of the proposed extension, the line will pass over the property of Lord Kensington, who is a warm supporter of the undertaking. And, as far as their inquiries have yet gone, the directors are not aware that any of the owners of the property upon the line are likely to offer any serious opposition. In fact, it will cut through no large property except Lord Kensington’s.

“Proceeding upon the most liberal computation, the directors are persuaded that a new capital of £75,000, in addition to the sum which the Company is already enabled to raise, will more than cover the entire expense of purchases, compensations, constructions, and every other contemplated outlay both immediate and contingent; and will put the Company in possession of much property, which, daily improving in value, will yield them a considerable income independent of their tolls. It is proposed to raise this additional capital of £75,000 by the issue of 3,750 new shares, of £20 each.

“On the whole, then, after an examination the most attentive and cautious, and the board are unanimously of opinion that there are no difficulties in the execution of the line, as proposed to be extended to Knightsbridge Green, which may not be effectually surmounted, that the probable cost, compared with the great importance of securing a terminus so close to London, is not such as to make the undertaking a matter of hazard, and that the direct communication which will thus be effected between the whole north and west of England, and the wealthiest of the streets and suburbs of the metropolis (the communication with the Thames being already secured by the existing act), is likely to produce an accession to the revenues of the Company much larger than proportionate to the outlay.

“The directors have great pleasure in congratulating the shareholders upon the completion of arrangements with the Great Western Railway Company, by which that Company have agreed to form a station for the express purpose of connecting their line with this railway, and upon the amicable and cordial feeling which subsists on all points with the Great Western as well as the London and Birmingham Railway Company, the present railway forming the sole connecting link of their respective lines with each other, and with the Grand Junction Canal and the river Thames.”

It should be stated that the directors had first inquired into the propriety of adopting the station formerly sought as a terminus by the Great Western Railway Company at Old Brompton, and had also investigated the merits of another position, to which their attention was directed, at Kensington Gore, both of which they found could be attained with ease, and at a small extra cost; but, believing that the selection of either of them, as the point to which to extend the railway, would have the effect of, and in reality be, only a half measure, they determined confidently to recommend to the Company what they knew to be the best, and the Company as confidently resolved to adopt it.

The advantages of the terminating station at Knightsbridge are obviously of the greatest importance. It will command the whole of the city of Westminster directly; and by Waterloo, Westminster, and Vauxhall Bridges, it is much more convenient to Southwark, Lambeth, Kennington, Walworth, and Camberwell, than any station northward of London can be. Passengers from Clapham, Battersea, Wandsworth, Putney, Richmond, &c., will come to the Kensington station, which retains, also, its convenience to the inhabitants of Kensington, Hammersmith, and Fulham, as heretofore; whilst the populous parish of Chelsea, and the wealthy and increasing district comprising Belgrave and Eaton Squares, lies in the immediate neighbourhood of the Knightsbridge station.

As collateral evidence of the importance and value of the line of railway, as already authorised by parliament, it may be stated that the projectors of the City and Richmond Railway have applied for, and obtained, the consent of the directors to make a branch which they propose to bring northward from Battersea Fields, by a bridge over the Thames, to the Birmingham, Bristol, and Thames Junction Railway, at the Hammersmith Road, and so to communicate with the London and Birmingham, and the Great Western Railways. The junction line will, in this manner, become the means of connecting the north and west of England with the south and south-east, as the railway in question will communicate directly with the Southampton, the proposed Brighton, and other railways south of the Thames, as well as with the city of London itself by Southwark Bridge, up to the foot of which it proposes to run.

The announced extension of the railway to Knightsbridge Green has given rise to another highly promising undertaking, which will have the effect of drawing an additional large amount of business in produce along the railway. The undertaking referred to is a market, which it is proposed to establish on Knightsbridge Green, immediately adjoining the west-end railway station, and the directors have consented to leave space enough for it in advance of the station, from the belief that such accommodation will be mutually advantageous.

Under these promising circumstances, the directors think it their duty to submit the foregoing statement of them to the proprietors generally, to strengthen their confidence, by informing them of the facts which appear to them to justify the strongest confidence. As the addition proposed in the foregoing report upon the Knightsbridge extension to be made to the capital of the Company need not be subscribed immediately, nor until parliament re-assembles, no applications for the new shares will be entertained by the directors, unless it be from a

through an existing registered proprietor in the Company; and proprietors are requested to forward their applications to the secretary at their earliest convenience, as the directors wish to learn as soon as possible whether it will be necessary at all or not to open the subscription to the public.

It may be desirable to state, that the necessary measures have been taken, in conformity with the standing orders of the two houses of parliament, for enabling the Company to obtain an act for the extension in the ensuing session. In the meantime the purchases of land are proceeding, and the works of the junction line, as at present authorised, will be pursued with all possible dispatch, so that it may be ready to commence business as soon as the London and Birmingham, and the Great Western Railways, are in operation.¹

26, Austin Friars, December 1st, 1836.

LONDON, SHOREHAM, AND BRIGHTON RAILWAY,

THE ORIGINAL WESTERN LINE, PROJECTED BY MR. CUNDY.

CAPITAL—£900,000, in Shares of £50 each.

DEPOSIT—£2 per Share.

PROVISIONAL COMMITTEE.

Admiral Sir John Beresford	T. B. Martin, Esq. M.P.
Thomas Bish, Esq. M.P.	Wm. Magnay, Esq.
Sir James Cockburn, Bart.	Geo. Page, Esq.
John Campbell, Esq.	G. H. Smith, Esq.
Right Hon. Charles Tennyson	Col. Skerritt
D'Eyncourt, M.P.	Wm. Tinkler, Esq.
H. D. Goring, Esq. M.P.	Col. Utterton
Sir John Scott Lillie	Benjamin Williams, Esq.

With power to add to their number

BANKERS—Sir John Lubbock and Co. Mansion House Street; Messrs. Cockburn and Co. Whitehall

STANDING COUNSEL—Mr. Sergeant Goulburn

SOLICITOR—Sir William Robert Sydney, No. 11, Palace Yard, London

ENGINEER—George Landmann, Esq.²

GENERAL SUPERINTENDENT—John Herapath, Esq.³

ARCHITECTS AND SURVEYORS—Mr. George Julian and Mr. Joseph Willey

SECRETARY—James P. Anstice, Esq.

¹ This scheme never came to anything.

² Lieutenant-Colonel. Engineer of the Greenwich Railway.

³ See page 214 of the *Railway Portfolio*,

This railway was projected—the plans and sections lodged—and notices of an application to parliament given—in the year 1834, long previous to the commencement of any other western line of railway to Brighton; and the leading feature in this plan, as contra-distinguished from the others (some of which are now framed upon it to a very considerable extent) is, that upon this line there will be no tunnel, whereas in all others, tunnels form an essential portion of the line.

This line will, by its branches, present the desiderata of two entrances into London; one at the west-end, near Vauxhall, and the other in the immediate vicinity of London Bridge. The main line will commence at a central point on the south side of the Thames, affording every facility of communication with all parts of the metropolis; and, after passing along a portion of the Southampton Railway, will proceed by Epsom, Dorking, Horsham, and Shoreham, to Brighton.

It would be superfluous to dilate on the advantages derived from the formation of railways, or to make any observation in favour of their general adoption; their advantages are appreciated, and their beneficial effects on the trade, commerce, landed and other interests of the country through which they pass, are understood and acknowledged; still, there are peculiarities of place and circumstances which must be taken into consideration in their construction. A line adapted to, and dependent upon, a carrying trade for its chief business and profit, might be ill-calculated for the accommodation and comfort of passengers. In the formation of such a railway, a tunnel, though not at all desirable, might be tolerated; but in a line selected for travelling, and to attract passengers, connecting also the metropolis with the town of Brighton, a watering place distinguished as the resort of wealth, fashion, and royalty, the plan must be free from every objection, and particularly from the greatest evil with which a railway can be afflicted—tunnels, and their inseparable nuisances.

The line here proposed is unexceptionable in all respects, having no tunnels whatever, passing over the most easy and beautiful tract of country, abounding in agricultural and mineral produce, with the most favourable gradients, and comprehending the greatest traffic and population. It is therefore capable of being constructed at the least possible expense—travelled over in the shortest time (as offering the least surface resistance), by locomotive power only, and, consequently, worked with the greatest economy. It likewise presents the advantage of having two London termini, one for the city, the other for the western portion of the metropolis—a combination of circumstances calculated to insure certain success, and an ample return for the capital required to be embarked in the undertaking.

The committee, convinced of the originality and superiority of this line, confidently recommend it for general consideration, satisfied that it has peculiar claims for legislative sanction, and that it will have the public support.

The extent of the traffic between the metropolis and Brighton, with detailed calculations founded thereon, have frequently been submitted to the public; and no doubt has ever been expressed of the utility of a railway communication, or of the benefits derivable therefrom. The daily-increasing importance of Brighton, with the cer-

tainty of Shoreham becoming a commercial port and a packet station, fully justify the expectation of a large profit to the shareholders in the undertaking.

The Original Western Line.—		ms. chs.	feet in.
No Tunnels.		2.31	- - 49 4 per mile.
1 mile falling	8 feet per mile.	5.5	- - 2 6 "
5½ "	rising 4½ "	2.31	- - 47 8 "
3½ "	" 9½ "	8	- - 4 0 "
6½ "	" 14 "	On the Croydon portion of this	
3½ "	" 8½ "	Line.	
8½ "	" 6½ "	1.9	- - 2 7½ per mile
15½ "	falling 15 "	1.74	- - 66 0 "
6 "	" 2½ "	6	- - level. "
5½ "	rising 5 "		
Mr. Gibbs' Line.—Three Tunnels.		Messrs. Stephenson's, which is in	
ms. chs.	feet in.	fact a piracy of the original Line,	
11.56	- - level.	with Two Tunnels added.	
3.10	- - 5 3 per mile.		
6.8	- - 4 4 "	15 miles	- - 4 9 per mile.
5.1	- - 5 2 "	5½ "	- - 11 7 "
3.36	- - 46 3 "	33 "	- - 16 0 "

The committee cannot forbear congratulating themselves upon having attached to the undertaking a gentleman, as their engineer, whose talent and experience are so well known and appreciated.

The plans, surveys, and sections of this line of railway, together with the estimate of the outlay, have been completed; and the gradients have been declared by scientific persons, as the best calculated to combine the greatest speed with the least possible wear and tear. The usual advertisements and notices have also been given, preparatory to an application to parliament.

The capital of the Company is £900,000, to be raised in shares of £50 each.

Subscribers will not be responsible beyond the amount of their deposits, should an act not be obtained; and if obtained, not beyond the amount of their respective shares.

A deposit of £2 upon each share is to be paid to the bankers of the Company, to the credit of the provisional committee.

The deposits to be available to the parliamentary and other necessary expenses.

Application for the remaining shares will be received by the secretary, at the temporary office of the Company, No. 77, Cornhill.¹

¹ This is not the prospectus of Cundy's original Brighton Company, but of one the result of a compromise between Cundy's and the Greenwich party. This amalgamation failed, however, in its doing any good. The date is 1835. Most of the directors are dead, except Sir James Cockburn, Sir William Magnay, and Mr. Tennyson D'Eyncourt.

OXFORD AND CAMBRIDGE RAILWAY.

CAPITAL—£700,000, in 14,000 Shares, of £50 each.

DEPOSIT—£3 per Share.

This railway is intended to complete the line of communication from the eastern to the western coast of England. Railways are already projected from Cambridge to the ports of Yarmouth and Ipswich, on the eastern coast, and from Tring in Hertfordshire, to Cheltenham and to the ports of Gloucester and Bristol, on the western coast, and to Milford Haven in South Wales; and a bill has passed through parliament for making a railway from Bristol to Exeter, which will be extended to Plymouth. It is now proposed to complete the line of communication from east to west by a railway from Cambridge to Tring, passing as near to the market towns of Royston, Baldock, Hitchin, Luton, and Dunstable, as the nature of the country will permit.

This continuous line from east to west, exactly accords with that methodised plan of railway communication which is deemed so desirable by both houses of parliament as tending to effect a systematic combination of insulated measures, and thus best to promote the power, wealth, convenience, and enjoyment of the country.

An inspection of the map is alone sufficient to make manifest the importance of this railway, as affording a rapid means of conveyance to passengers between the important cities and towns of Worcester, Hereford, Cheltenham, Gloucester, Bristol, Exeter, Plymouth, Falmouth, Bath, Oxford, Aylesbury, Birmingham, and Wolverhampton, in the west, south-west, and centre of the kingdom; and Cambridge, Newmarket, Bury St. Edmund's, Norwich, and the thriving ports of Yarmouth and Ipswich on the east, and through these ports (which must speedily become regular packet stations) to Dantzic, Gottenburgh, Hamburgh, Amsterdam, Rotterdam, Antwerp, and other ports of the north of Europe.

Independently of the facilities it will thus offer to passengers, its advantages in an agricultural and commercial point of view can be scarcely less estimable. It is well known that a very considerable traffic is carried on at Cambridge, Royston, Baldock and Hitchin, in corn, malt, cattle, cheese, butter, poultry, hops, wool, and also manufactured silks, leather, timber, coal, lime, &c. &c., while at Dunstable, Luton, and the adjoining places, an extensive trade is carried on in the manufacture of straw plait, and also of whiting.

For all these various commodities, there exist at present none but the most inefficient means of transit. There is not even a navigable river, or canal, between the termini of the proposed railway; and it may therefore be fairly presumed that, upon the completion of a railway, an immense increase in the traffic would take place.

But, besides the advantages already stated, this railway would become the means of supplying, not only the towns upon the line, but also those of the midland counties generally, including the immense population

of Birmingham and its vicinity, with cod, herring, turbot, sole, mackerel, oysters, and other fish, from the coast of Norfolk, Suffolk, and Essex.

It is obvious that from these various sources, the annual income to be derived from such a line of railway must be considerable, and the undertaking is submitted under the full conviction that it will be found to be one of great public utility, especially as effecting one continuous line of railway from the extreme eastern and western ports of the kingdom, and placing the Universities of Oxford and Cambridge within two hours' journey of each other, and that it will be highly advantageous to commerce and agriculture, and afford a profitable investment for capital.

A careful survey of the country is in progress, by an eminent engineer, with the view of laying down the best line.

When the survey and map of the line is completed, the names of the provisional committee will be announced, until which all applications for shares must be made, in writing, and post-paid, to Messrs. Blunt, Roy, Blunt, and Duncan, solicitors, 10, Liverpool Street, London; or Messrs. Randall and Son, solicitors, Cambridge.

MAIDSTONE JUNCTION RAILWAY.

CAPITAL—£200,000, in 4,000 Shares, of £50 each.

DEPOSIT—£1 per Share.

DIRECTORS.

H. G. Paice, Esq.

J. Thompson, Esq.

D. E. Stephens, Esq.

Captain F. Proctor

G. Jones, Esq.

Charles Herring, Esq.

BANKERS—Messrs. Barnard, Dimsdale, & Co.

SOLICITOR—John Lowrey, Esq.

ENGINEER—J. Gibbs, Esq.

SECRETARY—Mr. T. Green

The directors, aware of the advantages to be derived from a cheap and expeditious communication by railroad from London to Maidstone, avail themselves of the opportunity thus afforded them by the sanction of the legislature to the South Eastern Railway bill, of introducing this measure as one of great importance.

The rapid and successful progress of railway undertakings in this country has naturally created a desire to receive the benefit of their extension to large and populous towns, with a view to unite them with the metropolis, from which they would transfer the benefits to be derived from a mode of transit so greatly reducing the time and cost of travelling.

The Maidstone Junction Railway is intended to branch from the South Eastern Railway at or near the town of Tonbridge, and proceed thence by the banks of the Medway to Maidstone.

By joining the South Eastern Railway, the Maidstone Junction Railway will present an entire line of communication with the metropolis, by a route nearly as direct as any which the physical features of the country will admit, and at a cost less than half what would be required to effect the same purpose by any other line; while it may be safely assumed, that the incidental and prospective advantages of the line now submitted are immeasurably beyond any which could be anticipated from a metropolitan line taken in any other direction.

INCOME.

	£	s.	d.
Stage-coach passengers, now travelling by 14 coaches -	20,995	0	0
Parcels by ditto - - - - -	4,200	0	0
Posting, including the conveyance of private carriages and passengers therein - - - - -	2,200	0	0
Goods conveyed at present by water carriage - - - - -	10,000	0	0
Last year the duty paid on 15,000 tons of hops from Maidstone, Rochester, and Canterbury, all of which are brought to town by land carriage, at a heavy cost. Say two-thirds go by railroad at 4½d. per ton per mile is £187 10s. per mile - - - - -	6,582	10	0
Goods by private conveyance, not common carriers, comprising coals, corn, hay, straw, hops, wool, paper, rags, wood, chalk, lime, timber, manure, poultry, meat, fruit, vegetables, and fish, at the same rate - - - - -	2,500	0	0
Sheep and cattle - - - - -	500	0	0
	<hr/>		
	£46,977	10	0
Deduct outgoings for locomotive power and maintenance, including every contingency - - - - -	20,000	0	0
	<hr/>		
Income from present actual traffic	£26,977	10	0
The above results, it is particularly to be observed, are founded on the traffic as it now actually exists. It has been found by experience, and is now universally admitted, that an important increase of traffic, particularly in passengers and light goods (which are the most profitable sources of revenue), has invariably followed the construction of a railway. Between Liverpool and Manchester the increase has been more than trebled; and between Stockton and Darlington the increase has been twenty-fold. If the increase in this case be taken double only on persons travelling, the income will be as follows:—			
	£	s.	d.
Amount of income from present actual traffic - - - - -	26,977	10	0
100 per cent. increase on passengers - - - - -	10,497	10	0
	<hr/>		
	£37,475	0	0
	<hr/>		
Cost of maintenance and locomotive power in consequence of increase - - - - -	5,000	0	0
	<hr/>		
Total net income	£32,475	0	0

Application for shares, plans, and prospectuses to be made, by letter, post-paid, to the secretary, Mr. T. Green, Finsbury Chambers, London Wall; or to the country agents—J. Dyne, Esq. solicitor, Maidstone; Mr. Joseph King, sharebroker, Liverpool; Mr. James Harrison, sharebroker, New Street, Birmingham; Mr. James Stokes, sharebroker, Cheltenham; Mr. Holt, sharebroker, Manchester; Messrs. Ridsdale, sharebrokers, Leeds; Mr. John Field, sharebroker, Sheffield; Jonathan Dreury, Esq. sharebroker, Newcastle-upon-Tyne; Mr. Land, sharebroker, Bristol; Mr. Robert Allan, sharebroker, Edinburgh; and Mr. James Graystone, sharebroker, York.¹

THE HULL, LINCOLN, AND NOTTINGHAM RAILWAY,²
(VIA NEWARK.)

INTENDED TO COMPLETE THE COMMUNICATION BETWEEN THE MIDLAND COUNTIES AND THE METROPOLIS, WITH THE GREAT WOOLLEN DISTRICT OF THE WEST RIDING OF YORKSHIRE, BY UNITING THE MIDLAND COUNTIES RAILWAY ON THE ONE HAND, WITH THE HULL AND SELBY RAILWAY ON THE OTHER.

To be Incorporated by Act of Parliament.
CAPITAL—£1,000,000, in Shares of £50 each.
DEPOSIT—£2 per Share.

PROVISIONAL DIRECTORS.

Capt. Beauclerk, Grosvenor Cottage
Hans Busk, Esq. Great Cumberland Place
William Jerdan, Esq. Grosvenor Street
Stopford Jones, Esq. Queen Street Place
John Jenkyns, Esq. Argyle Street
Rev. J. C. Knapp, Prebendary, St. Paul's
Capt. Ladd, H.C.S. Berners Street
J. Mills, Esq. Regent Street
Benjamin Oliveira, Esq. F.R.S. Great Cumberland Street
Henry Patrick, Esq. Lombard Street
J. H. Weatherhead, M.D. Parliament Street
E. Wilmot, Esq. Margaret Street, Cavendish Square
J. C. White, Esq. Bury Street, St. James's

With power to add to their number.

The names of the provisional committees of management for Hull, Lincoln, and Nottingham, will be published in a future prospectus.

BANKERS—Messrs Smith, Payne, and Smith

STANDING COUNSEL—Matthew Davenport Hill, Esq. K.C.;
Richard Bligh, Esq.

SOLICITORS—Messrs. Williams and Bethel, 14, Lincoln's Inn Fields
PARLIAMENTARY AGENTS—Messrs. Lord and Northhouse, 13, Northumberland Street, Charing Cross

¹ This undertaking fell to the ground.

² This was tried for some time, but the great panic destroyed it.

ENGINEER—William Laxton, Esq. 11, Parliament Street¹
 SECRETARY—C. Ellis Welbourne, Esq.

The very great and peculiar advantages possessed by this junction railway over almost every other project that has passed parliament, or is now before the public, may be appreciated by an attentive perusal of the following facts:—

1st. The line, in an engineering point of view, is extremely favourable, being on a dead level nearly the whole of the distance, and is so admirably fitted for the construction of a railroad as to elicit from H. Handley, Esq., the member for Lincolnshire, the following remarks on the peculiar advantages which the county possesses:—

“It was a matter of very clear calculation that the agricultural interest would benefit as much by the establishment of railways as the manufacturing or any other interest in the country. It was commonly said that the farmers were half a century behind the rest of the community in improvement. If they were to neglect the great modern improvement of railways, they would be a whole century behind. It was not a question now of railway or no railway; the only anxiety was the best line of railway. The country was a dead flat; and a Lincolnshire blacksmith and a Lincolnshire ditcher would be almost all that was necessary. A short time since a very strict and accurate experiment was made of the loss suffered by a drove of sheep in driving them to London. It was found there was a loss of 8 lbs. weight in each sheep. When he stated, also, that the loss on a bullock was from 25s. to 30s. in driving it to London, the importance of railway communication would be at once perceived. He should add, that the time occupied in driving sheep from Lincolnshire to London was eight days. Now here was a loss of time and produce to the agriculturist! Supposing the farmer could send his stock by the railway at the same cost as driving them, still there was the time saved. Instead of eight days they would be able to send their stock to London in as many hours; and do not let it be forgotten that their stock would arrive in London in a much better and more saleable condition; and that the meat, instead of being, as it now frequently is, from the driving, in a state unfit for food, would be in prime and wholesome condition. Do you think the agriculturists cannot understand this benefit? They would soon find that, if they neglected the advantage of railway communication, while other districts enjoyed it, their prosperity would melt away, to use a Lincolnshire phrase, like tallow in the sun. So much for the carriage of stock; but the carriage of grain would be not less beneficial to the agriculturists, and profitable to the Company.”

2nd. The port of Hull, with its commodious and magnificent docks, enjoys the greater part, and might enjoy nearly the whole of the Baltic trade; and by being connected with Birmingham, and the great iron districts; Staffordshire, and the pottery districts; Nottingham, Leicester, Derby, and the manufacturing districts (with the whole of which this railway will immediately connect it), will possess facilities beyond those of any other port, for the exportation of British raw and manufactured produce.

¹ The editor and proprietor of the *Civil Engineers' and Architects' Journal*.

3rd. This railway will connect Hull with London by a journey of not more than eight hours, instead of the present dilatory and sometimes dangerous conveyance by steam packets and coaches, occupying from thirty to thirty-six hours, and which carry thousands of passengers per week.

4th. The agricultural produce of Lincolnshire will be conveyed both south and north; cattle, which now arrive in London in a sickly and wasted condition from the rich pastures of Lincolnshire, may be conveyed in a fat and healthy state; and corn and wool will be transmitted to the great manufacturing districts of the West Riding of Yorkshire, by the junction with the Hull and Selby, and Selby and Leeds Railways, for which acts have already been obtained.

5th. As the railway will pass over the Great North Road at or near Newark, it will be the most direct conveyance, by its junction with the Midland Counties Railway and the London and Birmingham Railway from the metropolis to any part of the north of the United Kingdom.

6th. During the summer season it will be the best route from London and the midland counties to the fashionable watering places—Scarborough, Burlington, &c. &c. In the winter it is certain that it will entirely supersede steam conveyance by water, which at present averages, between Hull and London, above 600 passengers per day.

7th. From the calculations that have been made from official sources, the present business between the points of traffic would more than pay the expenses, and allow a profit to the proprietors; yet, in addition to the peculiar local advantages which the port of Hull and the junction with the other railways afford it, Dr. Lardner has given evidence that the result of all the railways already completed has been found, on an average, to quadruple the goods and passengers previously conveyed along the same line of road.

8th. No serious opposition can be anticipated from any quarter to this railway, as the line is free from gentlemen's seats, and does not interfere with any other line completed or contemplated.

The accompanying map will convince every one who inspects it, that no other railway in the kingdom possesses so many local and commercial advantages.

The funds and property to be held by trustees, and the terms and management to be regulated by deed, until the act of parliament, limiting the responsibility of each shareholder to the amount of his Share, be obtained.

Maps and prospectuses may be had of the secretary, 23, Finch Lane, Cornhill; the parliamentary agents, 13, Northumberland Street; or at the offices of Messrs. Williams and Bethell, 14, Lincoln's Inn Fields.

FORM OF APPLICATION FOR SHARES.

TO THE DIRECTORS OF THE HULL, LINCOLN, AND NOTTINGHAM RAILWAY COMPANY.

Gentlemen—Please to allot me _____ shares in the above undertaking; for which I agree to pay the deposit and sign the parliamentary deed of contract.

Your obedient servant,

NOTE ON CATTLE TRAFFIC.

MR. HYDE CLARKE reckons the average loss by driving, and consequent saving by conveyance on railway, at 5 lbs per quarter for beasts, or 20 lbs; 2 lbs. per quarter, or 8 lbs. for sheep; and 2½ lbs. per quarter, or 10 lbs. for hogs. This is believed to be a low estimate.

Mr. H. Handley, M.P., one of the heads of the agricultural interest, calculates the loss on driving from Lincolnshire to London at 8 lbs in weight for sheep (*Railway Portfolio*, p. 238), and 25s. to 30s. in money for sheep. The time for sheep he calculates at eight days for getting up to market, which is equivalent to three or four market days, during which the chances of the market may be much affected.

The promoters of the Northern and Eastern Railway, in their prospectus (*Railway Portfolio*, p. 199), take the loss, on driving 100 miles, at 40s. for beasts, and 5s. for sheep.

When it is considered, how many beasts and sheep are driven from a much longer distance than 100 miles, the above data may be taken as a fair average; and they show the propriety of the calculations in the Contributions to Railway Statistics. Mr. Handley reckons the same amount of loss for sheep, viz., 8 lbs., and allows a higher rate for cattle.

The Northern and Eastern promoters state the supply of the London market at 150,000 beasts, and 1,500,000 sheep per annum, the saving on which, by railway conveyance, they take at £675,000.

The saving might be fairly taken at 40 lbs. for beasts; 8 lbs. for sheep; and 20 lbs. for swine; which would give a gross saving of lbs. of animal food on the present number conveyed on railways, as follows:—

On	220,000 beasts	-	-	8,800,000 lbs. of beef
„	1,250,000 sheep	-	-	10,000,000 lbs. of mutton
„	550,000 swine	-	-	8,250,000 lbs. of pork

27,050,000 lbs.

This would give a total of 27,050,000 lbs., or 11,000 tons of animal food, economised even at the present moment in the infancy of the railway system.

It is much to be regretted that no accurate returns exist of the quantity of killed meat conveyed by railways, as such information would tend to throw much light on the question of the economy of animal food by railways.

There can be no doubt, by the testimony of the cattle salesmen, that the net weight of dead carcasses brought up to market is much heavier than it used to be under the old system; and this is the best practical proof that the saving is a real and effective one.

The practice of bringing the dead carcasses to market has contributed to reduce the extent of cattle-driving as much as the conveyance of the live animals by railway has done; but though we can show the extent of the one operation, we cannot of the other.

SOUTH-WESTERN RAILWAY COMPANY.

THE ORIGINAL PROSPECTUS—THE REPORTS—HISTORY OF THE COMPANY.

THE great object of that part of the *Railway Register*, called the "Railway Portfolio," is to afford an accessible record of those original documents, relating to the history of Railway Companies, which are matters of useful and necessary reference. This design has been confirmed by the approval and co-operation of some of our leading railway men, and although it will necessarily take a long time in execution, its ultimate value will readily be seen. To carry it out, the cordial aid of railway men is indispensable; but it is not always so readily obtainable, even for a purpose which meets with a general approval, the individual benefits of which are acknowledged, but which the most part are too idle and too selfish to assist. The liberality of a Hudson, liberal in all things, or of a Moss, may prove a support and encouragement; but we are sorry to say, that such a man has few rivals among his equals, and few imitators among his inferiors. We have had less reason to complain than most parties have, but we certainly have no great reason to applaud the willingness or readiness of leading parties to give information on matters of public interest or importance.

The necessity for commencing this compilation of prospectuses has been fully proved in the course of our inquiry, for we have found, that there are very few offices which have the original prospectus of their Company. Some of our friends in the London and Birmingham, and South-Western offices, made every research, but were unable to aid us, and neither the Grand Junction, Liverpool, and Manchester, nor York and Midland are better off.

These deficiencies, it will be in our power to supply, and the present number will put the South-Western shareholders in possession of documents of considerable interest, which the Company do not possess. We are indebted for them to the kindness of Mr. Frederick Bigg, secretary of the Ipswich and Yarmouth Coast Railway, and late assistant-secretary of the South-Western Railway Company, who obtained the prospectuses for us from Mr. Stephens, son of Capt. Stephens, the original secretary of the South-Western Railway Company, and lent us the reports from his own collection.

The prospectuses are the more remarkable, as they are from the original proofs, showing the variations that were made from time to time in the plans, the capital, the estimates, the traffic computations, and the list of officers. A collection of this kind is most interesting, from its extreme rarity, and from its showing so completely the many modifications which take place in bringing such a large undertaking before the public.

The half-yearly reports carry down the history to the present time, and the whole forms a complete history of the progress of the Company, founded on authentic documents.

We cannot conclude this preface, without expressing our obligations

to Mr. Alfred Morgan, treasurer of the South-Western Railway Company, and late secretary, for the active interest he has taken in promoting our views in this compilation.

(PROSPECTUS.)

SOUTHAMPTON, LONDON, AND BRANCH RAILWAY COMPANY.

COMMITTEE.

Abel Rous Dottin, Esq. M.P.
 James Barlow Hoy, Esq. M.P.
 John Fleming, Esq. M.P.
 Honourable P. B. De Blaquiére
 William Fitzhugh, Esq.
 Philip Le Fevre, Esq.
 Lieutenant-Colonel Henderson
 Nathaniel Ogle, Esq.

John King, Esq.
 William Colson Westlake, Esq.
 Richard Davidson Pritchard, Esq.
 Samuel Le Fevre, Esq.
 Dr. Jones
 R. Johnston, Esq.
 Edward Loney Stephens, Esq.

The further civilised men advance towards that degree of perfection of which their faculties are capable, the more they learn of the great laws of Nature, and the more zealously they subject them to their uses.

The uninformed and uncivilised man is satisfied with little, and differs chiefly from his enlightened brother in the number and quality of his occupations. In proportion as information increases, the practical application of scientific deductions follows, which, while it adds to the power and resources of man, elevates him to a higher intellectual standard, and yields him superior means of happiness.

The oftener men associate, the more frequently opinions are brought to the test of discussion, and the sooner truth is elicited. One method of accelerating the great ends above referred to, is that of giving to men facility and rapidity of communication. Forethought and science point out the means; and we already see how readily the way has been entered upon, and what honour and profit have been derived at Liverpool and Manchester by those who have set the high example.

In every country there are districts particularly calculated for entrepôts, and from which facilities for transporting commodities should emanate. If we examine the southern coast of our island, not one spot will be found so well adapted for such an establishment as Southampton; it is well known to be situated at the head of one of the finest and most capacious rivers on the English coast, naturally protected from all storms by the Isle of Wight, and defended from all attempts of an enemy by the fortress and naval force of Portsmouth; it has neither rock nor sand to excite alarm; and its port is sufficiently extensive to contain that portion of commerce to which, from its geographical position, it is entitled.

The district through which the railway is intended to pass, to unite Southampton with London, in no part presents difficulties which cannot

easily be surmounted ; and large tracts of land, now uncultivated, will thereby become productive and valuable to the proprietors.

This great undertaking will give employment to thousands of labourers. Every parish within range of the work will be benefited ; the peasantry become more independent, and, consequently, the poor-rates diminished.

The enterprising merchant will be enabled to appreciate the advantage that will be afforded of escaping the Goodwin Sands, the adverse winds which are known to prevail in the Channel about nine months in the year, and the heavy charges for pilotage, lights, &c.

It is a well-known fact, that London merchants cannot at present depend on their West India ships performing more than one voyage during the year, but from Southampton they can always calculate on two such voyages ; and while vessels are discharging foreign produce here, outward cargoes may be collected at a trifling charge for carriage, thereby enabling such vessels to be re-freighted immediately, and be dispatched sooner than can possibly be done from various other ports.

The advantage that the fruit trade will derive by the landing of such cargoes at Southampton needs no comment ; the importers must be fully sensible of the incalculable benefits to be derived therefrom. Other cargoes from the Mediterranean, as well as from the wine districts of France and Portugal, will also derive advantage from terminating their voyage to Southampton.

The London market may, by this means, be abundantly supplied with fresh fish from the English Channel, thus giving encouragement to a large and meritorious class of men, as well as keeping up a nursery for the naval service, and obviating an objection which has been started to the introduction of railroads, as tending to the injury of our coasting trade.

The extensive shipments to the islands of Jersey and Guernsey will be transmitted by the proposed railway, and the rapidity and cheapness with which the merchants and traders of those islands will receive their commodities, must ensure their entire support. The supplies of goods to the Isle of Wight are also very considerable, and will afford, through the Southampton railway, a great source of revenue.

In fine, the projected communication will open a means for avoiding danger, delay, and expense ; and goods landed or shipped at Southampton may at once be dispatched to their respective destinations. Southampton is allowed to be the place best adapted for communication by steam conveyance with Havre-de-Grace, the first commercial port in France. The traffic already established between these places is very considerable ; but when the contemplated perfection of the Seine navigation, or the railroad from Paris to Havre, shall have been effected (and there is every reason to believe one or the other will be speedily realised), the advantages that must ensue will, indeed, be important.

The calculations already before the committee, founded upon careful investigation of the quantity of goods and number of passengers now proceeding along the line of the intended railway, justify the conclusion, that the capitalist who may embark in this undertaking will derive an ample return for his investment. No allusion is here made to the great prospective advantages arising from the expected increase of traffic ; they are, however, deserving of the very highest attention.

Prompted by the foregoing considerations, the committee of investigation have undertaken to superintend the adoption of preliminary measures in the formation of the proposed Company—have caused a survey to be made; and, from the assurance of support received from the highest commercial and other quarters, it cannot be doubted that a sufficient capital will be promptly subscribed to ensure an early application to parliament.

It is not intended to conceal, that objects like those in view must, to a certain extent, interfere with existing interests; but, if the perfection of science requires a departure from arrangements which can no longer meet the wants and demands of society, let it be fully understood, that a principle of mutual conciliation, acted on with the liberality which should characterise every important change, will ensure its being so made as to afford general satisfaction. The experience already reaped from the Liverpool Railway demonstrates, that the hostility which was there so strongly manifested, has not only subsided, but is converted into active and generous co-operation.

The committee of investigation invite a public meeting (of which due notice will be given), to take into consideration the foregoing statements, with a view to establish a Company to carry this great national object into immediate effect.

It is proposed that the intended capital of the Company be £1,000,000 sterling, divided into shares of £100 each.

Books are now open at the banks of Messrs. Maddison and Co., and Messrs. Atherley and Co., for receiving subscriptions, which subscriptions will be hereafter allowed in the payment of shares in the proportion of £2 deposit for each £100 share, in case the subscribers think proper to become shareholders.

A list of subscribers will shortly appear.

Southampton Railway Committee Rooms,
79, High-street, October 21, 1830.

PATRONS.

VICE-PATRONS.

DIRECTORS.

George Henderson, Esq. Chairman	
R. Johnston, Esq. Deputy-chairman	
Ab. R. Dottin, Esq.	W. Colson Westlake, Esq.
J. B. Hoy, Esq.	R. Pritchard, Esq.
John Fleming, Esq.	Sam. Le Fevre, Esq.
Sir William Heathcote, Bart.	Dr. Jones
Hon. P. De Blaquiére	Rt. Shedden, Esq.
William Fitzhugh, Esq.	John Storey Penleaze, Esq.
Philip Le Fevre, Esq.	Wm. J. Le Fevre, Esq.
Nath. Ogle, Esq.	S. R. Jarvis, Esq.
John King, Esq.	

With power to add to their number.

TRUSTEES.

John Fleming, Esq.	|	J. B. Hoy, Esq.
John Masterman, Esq.	|	Wm. Fitzhugh, Esq.
A. R. Dottin, Esq.	|	

AUDITORS.

¹ Joseph Jackson, Esq. Blackheath |

TREASURER.

² H. P. De Blaqueire

BANKERS.

|

ENGINEERS.

|

SOLICITORS.

|

John Barney, Esq.

SECRETARY.

E. L. Stephenson, Esq.

CORRESPONDING AGENT IN LONDON.

George Walter, Esq.

|

SOUTHAMPTON, LONDON, AND BRANCH RAILWAY
COMPANY.

CAPITAL—£1,000,000, in 50,000 Shares, of £20 each.

DEPOSIT—£1 per Share.

TRUSTEES.

|

DIRECTORS.

George Henderson, Esq. Chairman	
Robert Johnston, Esq. Deputy-chairman	
Hon. P. B. De Blaquiere	| John R. Keele, Esq. Mayor of
John Story Penleaze, Esq. M.P.	| Southampton
William Fitzhugh, Esq.	| Edwin Godden Jones, M.D.
James Barlow Hoy, Esq.	| Richard Davidson Pritchard, Esq.
Philip Le Fevre, Esq.	| Samuel Le Fevre, Esq.
John King, Esq.	| Robert Shedden, Esq.
William Colson Westlake, Esq.	| William James Le Fevre, Esq.

With power to add to their number.

¹, ², Inserted in pencil.

RAILWAY PORTFOLIO.

AUDITORS.

|

TREASURER.

Hon. P. B. De Blaquiere

BANKERS.

Southampton

|

London

|

ENGINEER.

|

SOLICITOR.

John Barney, Esq. Southampton

SECRETARY.

E. L. Stephens, Esq.

CORRESPONDING AGENT IN LONDON.

George Walter, Esq. 63, Old Broad Street

Applications for shares to be made at the following bankers:—

Messrs. M. and M. Maddison, and Messrs. Atherley and Fall Southampton; Messrs. Barnetts, Hoare, and Co., Lombard Street; Messrs. Coutts and Co., Strand; Messrs. Drummond and Co., Charing Cross; Messrs. Jones, Loyd and Co., Lothbury; Messrs. Lubbock, St. John, Bart., Forster, Clarke, and Co., Mansion House Street; Messrs. Masterman, Peters, and Co., Nicholas Lane; Messrs. Spooner, Attwood and Co., Gracechurch Street; and Messrs. Curries and Co., Cornhill London. Messrs. Moss and Co., Liverpool; Messrs. Deane and Littlehale; Messrs. Knapp, and Co., Messrs. Wickham, Mant and Co., Winchester; Messrs. Knapp and Co., Alresford; Messrs. G. H. Knight and Son Farnham; Messrs. Baggot, Seymour, and Co., Basingstoke; Messrs. Shrubsole and Lambert, Kingston; Messrs. W. T. and J. Haydon, and Messrs. Sparkes and Lee, Guildford; Messrs. Basset, Sir R. and Co. and Messrs. Kirkpatrick, Newport, Isle of Wight; Messrs. St. Barb Lymington; Messrs. Grant and Co., Portsmouth; Messrs. Priaulx, l Merchant, and Co., Guernsey; and Messrs. Amiræux, Le Breton, and Co., Jersey.

N. B. Prospectuses may be had at the Company's office at Southampton, or at their agent's office in London.

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This Company is formed for the purpose of making a railway from Southampton to London. By the aid of locomotive steam engines, now employed on the Liverpool and Manchester Railroad, travel of merchandise, and agricultural productions can be conveyed in a most expeditious, and economical manner.

It is proposed that this line of railway from Southampton shall terminate at the Surrey side of London; the whole length will be about seventy-six miles. The line of country through which it will pass is peculiarly favourable for the execution of such a work, and it has been estimated that the proposed railway can be completed for about £900,000.

The following table of profits, obtained from authentic sources, and calculated with great care and attention, shows the returns that may be expected on opening this line of communication:—

The average quantity of coals consumed along the line is estimated at 135,000 chaldrons, which, carried at 6s. per chaldron, will produce per annum		- - -	£40,500
Passengers	- - -	- - -	100,000
Goods and parcels (present traffic)	- - -	- - -	21,000
Foreign fruit trade	- - -	- - -	20,000
Fish ditto	- - -	- - -	3,000
Agricultural and commercial transport	- - -	- - -	40,000
			<hr/>
			£224,500
Probable expenses deducted	- - -	- - -	64,000
			<hr/>
			Net income - - - £160,500
Government, naval, and military stores, mails, &c.	- - -	- - -	

The above calculations are made at the rate of 20s. per ton for heavy goods, and 10s. for each passenger for the whole distance.

The annexed maps will exhibit the shortness of the line from Southampton to London by the railway, in contrast with the long and circuitous voyage by the Downs passage, and they will show the capabilities of the port of Southampton for the shipping trade. The soundings are copied from the recent survey of an experienced naval officer.

Not more than the deposit of £1 per share will be required until the act of parliament has been obtained, and then calls not exceeding £2 per share at intervals of three months, and of which two months' notice will be previously given. The deposit will be held applicable to all such preliminary expenses as may be necessary in applying for, and procuring the act of parliament.

The shareholders will not be considered answerable for any sum beyond the amount of their shares.

No public work can offer greater advantages than this promises to yield to all classes of persons. It will afford certain and increasing employment to thousands of the labouring population; it will open markets for the whole agricultural produce of the southern and western parts of England; it will give increased facilities to travelling and commerce; and, in realising all these important national and local advantages, it will secure to the shareholders an ample return on their capital.

Company's Office—High Street, Southampton.

For a more detailed account of this undertaking, the directors recommend the able report published by their secretary.

**SOUTHAMPTON, LONDON, AND BRANCH RAILWAY
AND DOCK COMPANY.**

CAPITAL—£1,500,000, divided into Shares of £20 each.

DEPOSIT—£1 per Share.

BANKS FOR THE RECEIPT OF DEPOSITS.

Messrs. M. and M. Maddison	}	Southampton
„ Atherley and Fall		
„ Barnetts, Hoare, and Co.		
„ Coutts and Co.		
„ Drummond and Co.		
„ Jones, Loyd, and Co.		
„ Lubbock, Sir John, Bart., Forster, Clarke, and Co.		
„ Masterman, Peters, and Co.		
„ Spooner, Attwood, and Co.		
„ Moss and Co.		Liverpool
„ Deane and Littlehale, Knapp and Co.		
„ Wickham, Maud, and Co.		Winchester
„ Knapp and Co.		Alresford
„ G. H. Knight and Son		Farnham
„ Baggot, Seymour, and Co.		Basingstoke
„ W. T. and J. Haydon		
„ Sparkes and Lee		Guildford
„ Shrubsole and Lambert		Kingston
„ Bassett, Sir R., and Co.		
„ Kirkpatrick		Newport, I. W.
„ St. Barbe		Lymington
„ Grant and Co.		Portsmouth
„ Prialx, Le Merchant, and Co.		Guernsey

The Company being now formed, by the unanimous concurrence of two public meetings held in the Town Hall of Southampton, on the 26th February, and the 6th instant, the directors submit the following statement made by Lieut.-Colonel Henderson at the last meeting; and they also annex a copy of the rules and regulations which have been adopted for the government of the Company (until the act of parliament is obtained), together with a copy of the parliamentary contract. As it is necessary that these documents should be signed by the several subscribers, they will be lodged for that purpose in the hands of the Company's solicitors, and due notice will be given to the parties as to the execution of the same.

The directors feel it of great importance to decide, as soon as possible, upon the best line of road; and so soon as a sufficient sum is subscribed to warrant the expenditure, the directors intend causing such surveys to be made as may enable them to determine this point.

COLONEL HENDERSON'S SPEECH AT THE TOWN HALL, SOUTHAMPTON,
APRIL 6, 1831.

Colonel Henderson said—I had the gratification of seeing my fellow-townsmen unanimous, at the meeting of the 26th February, in their wish to give support to the undertaking which was then brought under their consideration. I earnestly hope that similar unanimity may prevail on the present occasion. The committee have deputed me to lay before you some of the advantages, in a local and national point of view, which are likely to result from their contemplated measures; and a calculation has been made of the probable annual return to the subscribers, founded chiefly on the population and consumption of the districts through which the railway will pass, and on those branches of revenue which are likely to become available on first opening the communication. What the prospective increase of traffic may be is left to the judgment of those whose minds are capable of embracing the subject, and of duly appreciating all the advantages which the local situation of Southampton affords. In the calculations of profitable transport, I shall first advert to fuel, that necessary of life alike indispensable to the rich and the poor. It is a well known fact that the price of coals in the central parts of the proposed railway is between 50s. and 60s. per chaldron, while the price is at Southampton from 23s. to 30s. Should the railway be established, those central parts might be supplied at the rate of from 33s. to 40s.; thus saving, in this article alone, about 20s. per chaldron to the inhabitants of that part of the country. A calculation has been made, founded upon the census of 1821, of the population within ten miles on each side of the proposed line; and this calculation shows it to be about 135,000 persons. Assuming this to be nearly the truth, and allowing five persons to each family, there are 27,000 families to be supplied with fuel. We all know that the consumption of fuel in different families varies according to their means, and ranges from the 120 chaldrons of the great landowner, to the chaldron and a half, or a bushel per week, of the poor man. I have had some difficulty in fixing an average consumption for the 27,000 families in the town and country parishes near the proposed line; but, from the best information I can obtain, I believe that five chaldrons on an average for each family may be considered a fair assumption.

27,000 families, exclusive of Southampton and neighbourhood,
5 chaldrons for each family.

135,000 chaldrons,
6s. per chaldron for the carriage along the whole line on an average,

£40,500 for the carriage of coals.

I may be told that the whole supply of coals for the district will not go from Southampton. My reply is, that it matters not from which end of the line, whether from London or Southampton the supply is sent, still, while the railway offers the cheapest mode of conveyance, a preference will be given to it over every other means, and the profit will be the same. To the humane and charitable man who may be a subscriber to this undertaking, it will prove a source of sincere satisfaction to contem-

plate the benefits that will be conferred on so many families in having their fuel supplied at such reduced rates. If the retail price of coals to the poor man be correctly stated near the centre of the line at 1s. 8d. per bushel, and if, by means of the railway, the same can be supplied at 1s. 2d., the difference to the poor family consuming a bushel per week will be 26s. a-year. Perhaps many who now hear me may consider such a saving a trifle; but those who are acquainted with the circumstances of the poor will bear me out in the assertion that the saving of 6d. a bushel on their coals will confer a most important benefit. Let us now look at the effect which this reduction of price will produce amongst the middle classes of society, who consume five, ten, and fifteen chaldrons a-year. It is manifest that they will save respectively £5, £10, and £15. Now, supposing the heads of such families were to take shares in this undertaking to the amount of £100, £200, and £300, it follows that the saving on their coals alone would be equal to 5 per cent. upon the several sums invested, and, at the same time, they would receive a dividend of at least 2 per cent. arising from the carriage of coals alone. Thus families similarly situated would derive a benefit from this article alone of 7 per cent. upon their investment. If this reasoning holds good in respect to coals, it must be equally valid in reference to numerous other articles, such as sugars, teas, groceries of all descriptions, timber and other building materials, wines, brandies, foreign fruits, silks, manufactured goods of all kinds, and indeed every article of necessity or luxury which is not the produce of the district. But the benefits will not end here, for the railway and docks will give a facility, rapidity, and cheapness of transport and of shipment to all the produce of the district. I would ask, therefore, may we not hope for the warmest support of every inhabitant along the line, even if the advantages were no greater than those which I have already shown? But when it is made manifest that the profits upon the undertaking will yield an ample return from many other sources, we may justly expect that we shall be cheered on in our progress by the unanimous approbation of the whole population of the district. The next item on my scale of profits to the subscriber will arise from the conveyance of passengers. Capt. Stephens has shown, in his report, that 100,000 persons embark in and disembark from steam and other passage vessels annually at Southampton. The majority of these arrive from distant parts of the country, and many come to and depart from Southampton who neither embark nor disembark at the port. It is a reasonable assumption, therefore, to calculate upon 100,000 passengers annually upon the railway, and taking these at 10s. each for long and short distances, we have a profit of £50,000 per annum upon passengers. Capt. Stephens has shown that the quantity of goods and parcels now passing through the district annually is about 30,262 tons, and that the present cost of the carriage of these is about £63,273. If these can be transported along the railway with increased celerity and safety at one-third of the present cost, or at £21,091, are we not to infer that a preference will not only be given to the railway over every other means of conveyance, but that a great increase will take place in the quantity of goods so transported? The foreign fruit trade has been ascertained by parliamentary documents to be about 40,000 tons for Great Britain.

Assuming that two-thirds of this trade goes to London, and that, for the reasons stated in Captain Stephens's report, those two-thirds should be landed here and passed along the railway, we shall have a return of £26,666; but I will state this at £20,000. It is well known that large quantities of fish are caught off Torbay and to the westward, from whence they cannot be sent to the London market, in consequence of the distance. Steam vessels might daily bring these to Southampton alive in wells, from whence they might be transported in four hours to London. This would open a source of large profit to the railway, and of benefit to London and to the whole line of communication. I shall not assume more than ten tons a day at the outset, for this traffic; but it must be evident to every person of common understanding, that this is an article which must increase much beyond my present estimate. These are a few of the principal returns which may be calculated upon as coming into operation on opening the communication, and they form the leading items in the table of calculations which I shall have the honour of submitting. In respect to many of the others, I admit that they may be termed speculative; but I have endeavoured throughout to keep so much within the limits of probability, that I have no fear of having my statement controverted. It would take up so much of your time were I to enter into a detail of the process by which I have arrived at the results which appear in the table of calculations, and to advert to the numerous documents which have been resorted to for information, that I should despair of being listened to. I shall not, therefore, allude to the different items at present, more particularly, as I have reason to believe that there are several gentlemen now present who are prepared to enter into some details on those points. I hope it may be considered sufficient for me to state that the calculations have been made more with reference to the population and consumption of the neighbouring districts than to the prospective advantages likely to arise from an extended commerce, and that they are, therefore, on a very moderate scale. It may, however, be proper for me to give a reason why no sum has been set down in the table opposite to the items of naval and military stores, and the transport of mails. The reason is that the directors have not thought it prudent to approach his Majesty's government with a solicitation to give their sanction to the measure, as they consider that, until the sense of the public can be ascertained, as to the practicability of raising the capital and completing the undertaking, such a step would have been premature; but, if a favourable feeling should be manifested, it is the intention of the directors to lay the subject before his Majesty's ministers, and they venture to anticipate the favourable reception of a measure which is likely to be productive of great national advantages. Should the undertaking receive the sanction of government, there can be little doubt that a very large portion of naval and military stores will be transported along the line, and likewise that the mails will be permitted to proceed by the same route, thereby adding largely to the profits of the Company. I am not desirous of exhibiting a scale of profits which may be termed too sanguine or speculative; my object is to show, from an under-rated rather than an over-rated calculation, that a fair prospect of remuneration may be expected.

Calculation of profits arising from the transport of passengers and goods by the railway—

	£
Transport of coals - - - - -	40,500
" Passengers - - - - -	50,000
" Goods and parcels (present traffic) - - - - -	21,091
" Fruit trade - - - - -	20,000
" Fish - - - - -	3,650
" Jersey, Guernsey, and Isle of Wight trade - - - - -	3,000
" Corn, hops, &c. - - - - -	3,000
" Coasting and western trade - - - - -	10,000
" Mediterranean ditto - - - - -	1,000
" French ditto - - - - -	4,000
" Irish ditto - - - - -	4,000
" Timber and building materials - - - - -	4,000
" West India trade - - - - -	5,000
" Canada ditto - - - - -	5,000
" United States, ditto - - - - -	3,000
" South America, ditto - - - - -	1,000
" Portuguese, ditto - - - - -	1,000
" Spanish, ditto - - - - -	1,000
" East India, ditto - - - - -	1,000
" Naval and military stores for government - - - - -	-
" Mails - - - - -	-
	<hr/>
	£181,241
From this deduct for expenses of locomotives, &c. - - - - -	- 61,241
	<hr/>
Estimated annual profit, being 10 per cent. on the estimated outlay - - - - -	£120,000

I consider that two locomotive engines, making two trips a day each, will be sufficient for passengers at the opening of the railway, and that three engines will be adequate to transport the goods. By reports from the engines on the Darlington Railway, the rails and chains are expected to last thirty years. By reports from the Liverpool line, the rails and chains, where the traffic is greater, are expected to last twenty years. I may be asked on what data I have formed my calculation that two locomotive engines will be sufficient for transporting 300 passengers daily, or 100,000 annually, along the line; or that three engines will suffice to transport the goods which I have stated in the table submitted. My answer is, that one of the last improved engines called the Sampson transported upwards of 100 tons, exclusive of the weight of the carriages, in about two hours and a half, from Liverpool to Manchester, with an expenditure of only 20s. worth of fuel. If, therefore, we employ engines of equal power, one engine could transport daily at two trips 3,000 passengers, allowing fifteen persons to the ton, and supposing such a number could be stowed; but my allowance is only 300 passengers to two engines at two trips each, so that I am supposing only one-twentieth part of the power to be used. Again, one engine of equal power with the Sampson could transport 31,300 tons of goods annually, exclusive of Sundays. Three such engines could, therefore, move, making each only one trip a day, 93,900 tons; and when this quantity is brought upon the railway, it is needless for me to say that the income will be such as

to enable the proprietors to increase the number of their engines with advantage. If I am asked upon what ground the calculation has been formed for completing the railway at the cost of £1,200,000, my reply is, that contracts have been entered into lately for completing a railway at the rate of £14,000 per mile through a very difficult country. We may, therefore, expect to complete ours at about £10,000 per mile; but even taking £14,000 as the cost, this, for seventy-eight miles, would amount to £1,092,000. Supposing our road to be sixty feet wide, it would require the purchase of 566 acres of land; but allowing 650 acres to be requisite for warehouses and other purposes, and that we should be called on to pay £100 per acre, which is more than five times the value of the poor heath over which our railway will pass, we may contemplate an outlay, at the utmost, of—

£1,092,000 at £14,000 per mile, for seventy-eight miles
65,000 for 650 acres, at £100 per acre
<hr style="width: 100%;"/>
£1,157,000
43,000 for contingencies
<hr style="width: 100%;"/>
£1,200,000 estimated cost.

I shall now beg to draw your attention to the docks, which form part of our undertaking. It will be apparent to every one, who has considered the subject, that the docks and the railway are so intimately connected, and of such paramount importance to each other, that the one without the other would be unproductive; for were the docks to be constructed without the railway, the cargoes of vessels could not be transported into the interior, nor the return cargoes brought to the coast, and if the railway were to be called into existence without the docks, there would not be sufficient traffic to produce a beneficial return. The two together will, however, render the measure complete, and the benefit will be reciprocal. I feel the great difficulty of forming calculations upon prospective commerce, and of stating anything like the amount of profit which may be anticipated from this part of the undertaking. But when I take into consideration the geographical position of our port, with all its local advantages, its facility of entrance and exit, its safety from the elements, its protection from an enemy, and its adaptation for commerce—when I can pronounce professionally on the facility and economy with which docks can be constructed at Southampton—and when I contemplate the great advantages which such works will yield to shipping, by offering them a safe asylum, by relieving them from the dangers of the passage through the Downs, and of capture by an enemy—I confess I cannot comprehend how such manifold and manifest advantages can fail to produce their hitherto unvaried results. I have been told that it is difficult to move commerce into new channels, but I would fearlessly say that this is a mistake. It is a mistake to suppose that the enlightened British merchant will confine his commercial speculations to one particular spot—that because he has been successful in one corner of the empire, he will be unwilling to adventure in another. The influence of the British merchant's enterprise and capital is to be traced in every part of the civilised world, and he is ever ready to foster new outlets for commerce, and to encourage

new channels for industry. To such men as these Britain owes her commercial greatness—to such men as these we look for support in this undertaking, and I trust we shall not look in vain. If we consider the present deplorable accommodation which is afforded to shipping in our port, it becomes a matter of astonishment that shipowners should allow their vessels to approach it at all; and we need not be surprised to hear the masters of such vessels remark that, instead of being called on to pay port charges, the owners ought to be paid for coming hither. But a brighter day is dawning for Southampton; and it is to be hoped that the clouds which have so long hung over her commercial horizon will soon be dispersed. Though nature has been prodigal of her favours in forming our port, man has, hitherto, done little to improve those gifts. Let us resolve that this supineness shall not disgrace our day—let us show that we have enterprise and intelligence enough to avail ourselves of those manifold advantages which nature has presented to us; and we shall soon see stately piles of buildings, docks, quays, and basins, crowded with countless shipping, take the place of those unprofitable and unsightly mud-banks which now surround our town, and mar the scenery of our beautiful river. But let us drop for awhile the selfish calculations of profit, and turn our attention to this undertaking as one of national importance, as one that is likely to benefit the whole commerce of the kingdom; and I think it requires no stretch of imagination to foretel that, in the event of a war, it will afford that shelter to our commercial shipping which has ever been a subject of engrossing importance, but which, since the invention of steam navigation, must be, in the minds of reflecting men, one of painful anxiety. What was it that gave rise to the idea of a ship canal from Spithead to London, at a contemplated cost of about 4,000,000? What, but the dangers of the Downs passage, and the risk of capture by the enemy. Have the dangers of the Downs passage diminished since that period? No! Lloyd's lists bear fearful testimony to the reverse. Has the risk of capture by an enemy diminished? No! it has increased tenfold, by the invention of steam navigation. And, to use the emphatic expression of a warm advocate of our project, "If your docks and railways are not carried into effect, more value in shipping and merchandise will be lost to England, in the two first years of a war, than would suffice to pave your railway with gold instead of iron, and to face your docks with silver instead of stone." For what purpose was the grand ship canal, to which I have alluded, chiefly intended? Was it for the purpose of bringing the ships to London at such vast expense, and with so much damage to the vessels? Most certainly not—the ships were not wanted in London, but the cargoes were. Now, if we can transport the cargoes to London at one-fourth of the expense, and in one-tenth of the time, while the ships may be prosecuting another voyage, or preparing for one in our Southampton docks, surely we shall multiply the advantages of a ship canal at least fourfold, and save all the detention and damage of the vessels. I would now beg to bring to your notice the proposed warehouses; and, in so doing, I must intreat your patience whilst I enumerate a few of the principal articles of foreign and colonial produce which are annually imported into Great Britain and exported from thence; and I would ask any one, who is acquainted with the subject, if there is, along the whole range of the British coast, a port

possessing greater advantages as an entrepôt than Southampton. I would further ask, whether we may not expect that a large proportion of these articles will be warehoused here for home consumption and for exportation. I have selected the imports and exports of 1828, as I have not had access to those of a later date.

		IMPORTED.	EXPORTED.
Coffee - - -	lbs. - -	41,069,731	23,785,980
Cinnamon, cloves, and other spices - -	lbs. - -	10,364,580	7,616,957
Corn - - -	quarters -	1,206,198	73,320
Cotton piece goods, In- dia, not printed -	pieces -	967,102	524,372
Cotton goods, printed -	square yards	505,708	338,892
Furs - - -	number -	2,633,085	354,994
Indigo and cochineal -	lbs. - -	10,171,042	4,746,767
Cocoa - - -	lbs. - -	1,637,000	1,487,537
Peruvian bark - -	lbs. - -	338,797	188,669
Logwood - - -	tons - -	14,045	6,395
Spirits - - -	gallons -	9,234,996	3,162,975
Sugar, unrefined -	cwts. - -	4,968,019	371,446
Tobacco and snuff -	lbs. - -	24,993,278	11,040,921
Cotton wool - - -	lbs. - -	227,760,642	17,369,776
Sheep's wool - - -	lbs. - -	30,246,898	872,249
Tallow - - -	cwts. - -	1,040,806	
Wine of all sorts -	gallons -	9,637,946	1,561,605

The declared value of British and Irish produce and manufactures exported in 1828, is £36,812,756. What proportion of this vast trade will be brought to Southampton, it would be presumptuous in me to estimate; but, as I have already said, if to the pre-eminent advantages which nature has afforded us, we superadd the accommodation of safe and commodious docks and warehouses, with easy, rapid, and cheap transport into the interior, there cannot be a doubt that the influx of commerce will far exceed any calculation which I could venture to lay before you. In conclusion, let me earnestly hope that the imperfect outline which I have given of this great national undertaking, may have the effect of turning your minds to the contemplation of the absolute necessity of adopting, and that speedily too, the measure which is now recommended to your notice. If the fact is admitted that such works are important for the protection of our commerce, it will be admitted also that no time is to be lost in carrying them into execution. These are works of a magnitude and description which cannot be completed in less than three years; and I venture to predict, without pretending to any prophetic inspiration, that, before three years are expired, there is not one man, of all those whom I now have the honour of addressing, who will not lament that the undertaking was not sooner set on foot.

RULES AND REGULATIONS

Adopted for the government of the Company until the Act of Parliament is obtained.

We, the several persons whose names are hereunto subscribed, being

severally subscribers to and promoters of an undertaking for the making, constructing, and establishing of a railway and docks, to be called "The Southampton, London, and Branch Railway and Dock Company," or by such other name or names as may be adopted at any time hereafter by the directors for the time being engaged in promoting such undertaking, do hereby recognise and acknowledge, as directors for managing and conducting the affairs relating to the same undertaking, until an act or acts of parliament shall be obtained in that behalf, the following persons, namely:—

William Fitzhugh, Esq.

Robert Shedden, Esq.

Philip Le Fevre, Esq.

John Story Penleaze, Esq.

George Henderson, Esq.

John King, Esq.

William Colson Westlake, Esq.

Edwin Godden Jones, Esq.

Richard Davidson Pritchard, Esq.

Robert Johnston, Esq.

Samuel Le Fevre, Esq.

William James Le Fevre, Esq.

Samuel Raymond Jarvis, Esq.

Of which persons so hereby appointed or recognised as directors, any five or more, provided the chairman or deputy chairman shall be one, shall form or constitute a board of directors.

And moreover we do hereby, in furtherance of the said measure, and in addition to a certain deed or parliamentary contract and engagement, bearing even date herewith, under our respective hands and seals severally and respectively, and for our several and respective executors and administrators (but not jointly, nor any one for the others or other of us, nor for the executors' or administrators' acts, deeds, or defaults of the others, or any other of us, and so as that each of us may be bound and liable only for himself or herself, and his or her own respective executors or administrators, and for or in consequence of his or her own acts, deeds, or defaults respectively, and not any further or otherwise howsoever), promise and agree to and with the several persons hereinbefore named or recognised as directors, and each and every of them, that we severally, and our respective executors or administrators, shall and will faithfully conform to and abide by the several rules, orders, and regulations hereinafter mentioned and set forth, which have been devised by the said directors for the management and conduct of the said undertaking, until an act or acts of parliament shall be obtained, and with the view of saving all unnecessary expense, until it shall be ascertained, whether the public in general take such an interest in promoting the undertaking as to justify the proposed application to parliament.

I.—That the said directors or any board or meeting thereof constituted as hereinbefore mentioned, shall have power from time to time, as they may deem expedient, to appoint as additional directors to act jointly with themselves in all matters concerning the said undertaking, any person or persons being a subscriber or subscribers for fifty shares each or upwards in the said undertaking, and also to appoint such and so many deputy chairmen and committees of directors in London and elsewhere, as they shall think fit, and to delegate to such committees respectively such duties and powers as the said directors may think proper, and that (as the interests of the corporation of Southampton may be effected by the intended operations of the Company), the directors shall be at liberty to appoint the Mayor of Southampton for the time being a director, and that the Mayor so appointed shall be a director by

virtue of his office, not only for the year of his mayoralty, but for the next following year.

II.—That a capital of £1,500,000 shall be raised in shares of £20 each, to be applied in the construction of the said railway and docks, and other necessary works, and in defraying the expenses attending the said undertaking.

III.—That 15,000 of such shares shall be reserved by the directors until after the act of parliament shall be obtained, for the purpose of being then offered to such friends of the undertaking as may not previously have been able to take shares.

IV.—That a deposit of £1 per share shall be paid by each subscriber, at the time of subscribing, but that no further deposit or sum shall be called for, on account of expenses or otherwise, till after the result of the intended application to parliament shall be known.

V.—That when, and as soon as shares to the amount of £750,000 shall have been subscribed for (but not before), the said directors, or any board or meeting thereof, to be constituted according to the provisions herein for that purpose contained, shall have full and ample power and are hereby authorised then to apply for an act or acts of parliament for the establishment and good regulation of the said undertaking.

VI.—That the majority of members attending any meeting of a board of directors, such meeting consisting of not less than five members, shall bind all the members whether present or absent; and the chairman or deputy chairman or other member, presiding at any meeting of a board of directors, shall have a double or casting vote.

VII.—That John Fleming, of Stoneham Park, Esq., M.P., John Masterman, Esq., of the city of London, banker, Abel Rous Dottin, of Bugle Hall, Southampton, Esq., M.P., James Barlow Hoy, of Midenbury House, near Southampton, Esq., M.P., and William Fitzhugh, of Bannister's Lodge, near Southampton, Esq., having consented to become trustees of the trust funds, to be subscribed for the purposes of the said undertaking, they are hereby accordingly appointed and declared to be such trustees thereof (subject as hereinafter is mentioned.)

VIII.—That the treasurer shall apply such sums as may come to his hands, as the board of directors sitting at Southampton shall, from time to time, direct by any writing, to be signed by three or more of the acting directors for the time being (whereof the chairman or deputy chairman shall be one.)

IX.—That all sums of money paid by way of deposit at any of the banks in London, Southampton, or elsewhere, shall be placed to the credit of the trustees above-named, who shall stand possessed thereof, and apply the same (subject to such indemnity as is hereinafter mentioned and provided for) upon trust from time to time, to pay such parts and proportions thereof to the treasurer for the time being, for the purposes of the said undertaking, as any five or more of the said directors assembled at any board or meeting of directors shall by any order or writing, signed by such five or more directors (and of whom the chairman or deputy chairman for the time being, shall be one), order or direct, and every payment of which shall be made by the trustees, pursuant to any such order or writing so signed as aforesaid, shall be a full and absolute acquittance and discharge to them for the monies they

shall so pay in pursuance thereof; and the trustees shall be at liberty to lay out any sum in their bankers' hands in the purchase of exchequer bills, or such other government securities, as the board of directors shall, from time to time, direct.

X.—That the monies so to be placed to the credit of the trustees, pursuant to the foregoing rules or regulations, shall, in the first place, and in preference to all other claims, be subject and liable to indemnify and save harmless, as well the trustees, as also the directors hereinbefore severally named and appointed; and their successors, and their respective estates and property (both real and personal) from and against all losses, costs, charges, damages, or expenses, which they, any or either of them, respectively, may incur, suffer, sustain, expend, or be subject or liable to in respect, or on account of, their said trust, or the said undertaking; or in consequence of any act, matter, or thing done, or to be done by them, respectively, in relation thereto, by virtue of their respective offices; and also that they, the said trustees and directors respectively, shall in no case be answerable for the failure of any banker, or other person, in whose hands any of the monies subscribed for the said undertaking shall be deposited, nor for any other loss than what may occur by means of their respective wilful default, nor shall any one of them be answerable or accountable for any others or other of them, but each for himself and his own acts and deeds only; and the said trustees shall at all times be at liberty to reimburse and indemnify themselves; and also the said directors, and each and every of them respectively, with and out of the monies for the time being, remaining in their hands or placed to their credit as aforesaid, all and every such losses, costs, charges, damages and expenses, as hereinbefore are mentioned and intended to be provided against.

XI.—That no subscriber for any share or shares in the said undertaking shall, in any event, or under any circumstances whatever, be subject or liable to the payment of any larger or other sum or sums of money than what he, she, or they, shall have severally subscribed for; and that in the said intended act or acts of parliament, full, clear, and ample provision shall be made for the indemnity and protection of every subscriber in that behalf.

XII.—That in and by the said intended act or acts of parliament, it shall be distinctly and clearly provided and enacted, that no call shall be made upon the subscribers to the said undertaking, or any of them, which shall exceed the sum of £2 upon each share at any one time; and also that no more than three calls shall be made in the course of any one year; and that there shall always be an interval of three calendar months at the least between every two calls.

XIII.—That, until it shall be otherwise provided for by the said intended act or acts of parliament, every subscriber for five shares or upwards in the said undertaking, shall have and be entitled to claim at all meetings of the subscribers and promoters of the said undertaking, touching any business, matter, or thing relating thereto, one vote for and in respect of every five shares for which he or she shall be a bona fide subscriber, but so nevertheless as that no one subscriber shall have or be entitled to claim more than twenty-one votes in the whole, whatever the number of his or her shares may actually be; and at such meetings of the said subscribers and promoters, every absent sub-

scriber for five shares or upwards in the said undertaking, shall be entitled to give his or her vote or votes by proxy, provided the party acting as such proxy be, in every case, a bona fide subscriber for five shares or upwards in the said undertaking.

XIV.—That, until the act or acts of parliament above referred to shall be passed, the treasurer for the time being shall give such security for the monies which shall be paid into his hands on account of the said undertaking, and for the due payment and application thereof by him, when thereunto required or ordered, pursuant to the eighth regulation above stated, as the board of directors may, in that behalf, direct and determine upon.

XV.—That George Henderson, Esq., be the chairman of the board of directors.

XVI.—That Robert Johnston, Esq., be one of the deputy chairmen, and that the board of directors be empowered to appoint other deputy chairmen.

XVII.—That the Hon. Peter Boyle de Blaquiere be the treasurer of the proposed Company, and that he have a seat at the board of directors, and be entitled to vote as a director accordingly; but that he be disqualified from subscribing for, or holding any shares in the said undertaking.

XVIII.—That John Barney, Esq., be the solicitor to the proposed Company or undertaking, and that the directors have power to appoint one or more solicitor or solicitors residing in or near London or Westminster.

XIX.—That Edward Loney Stephens, Esq., be the secretary to the proposed Company or undertaking.

PARLIAMENTARY UNDERTAKING, OR SUBSCRIPTION DEED.

This indenture, made the day of 1831, between George Henderson, of the town of Southampton, Esq., and Robert Johnston, of the city of London, Esq., of the first part—Wm. Fitzhugh, of Bannister's, near Southampton, Esq., Robert Shedden, of Brooklands, in the county of Southampton, Esq., Philip Le Fevre, of the said town of Southampton, Esq., J. Story Penleaze, of the same place, Esq., John King, of the same place, merchant, Wm. Colson Westlake, of the same place, merchant, E. Godden Jones, of Swathling, in the said county of Southampton, M.D., Richard Davison Pritchard, of the said town of Southampton, Esq., Samuel Le Fevre, of the said town of Southampton, Esq., William James Le Fevre, of the same place, Esq., and Samuel Raymond Jarvis, of Fair Oak, in the said county of Southampton, Esq.; of the second part, and the several other persons whose hands are hereunto subscribed, and seals affixed; of the third part witnesseth, that each of them, the said George Henderson and Robert Johnston, doth hereby for himself, his heirs, executors, and administrators, and to the extent only of the sum or amount in money set opposite to his name, and not further, or otherwise covenant, promise, and agree with and to the said William Fitzhugh, Robert Shedden, Philip Le Fevre, John Story Penleaze, John King, William Colson Westlake, Edwin Godden Jones, Richard Davison Pritchard, Samuel Le Fevre, William James Le Fevre, and Samuel Raymond Jarvis,

their executors and administrators. And each of them, the said William Fitzhugh, Robert Shedden, Philip Le Fevre, John Story Penleaze, John King, William Colson Westlake, Edward Godden Jones, Richard Davison Pritchard, Samuel Le Fevre, William James Le Fevre, and Samuel Raymond Jarvis, and also each and every of them, the said several persons parties hereto of the third part, doth hereby for himself and herself, and for his and her respective heirs, executors, and administrators, and to the extent only of the sum or amount in money set opposite to his or her name, covenant, promise, undertake, declare and agree with and to the said George Henderson and Robert Johnston, parties hereto of the first part, in manner following; that is to say, that they, the said several parties hereto of the first, second, and third parts, together with the several other persons who have set their names and affixed their seals to nine certain other indentures, bearing even date and of the same tenor, purport, and effect herewith, have subscribed the several sums set opposite to their respective names, for the purpose of making, constructing, and establishing a railway and docks, and forming themselves into a Company, to be called by the name of "The Southampton, London, and Branch Railway and Dock Company," or by such other name or names as may at any time hereafter be adopted by the directors engaged in promoting the establishment of the same railway and docks; such docks and all necessary warehouses and storehouses to be made at Southampton or elsewhere, as occasion may require, and such railway to lead from Southampton to London, by such course, route, or line, and through such parishes, townships, or places as shall be hereafter, from time to time, selected and approved of by the directors for the time being, engaged in establishing, conducting, and carrying into effect the said undertaking, and also, with such branches from the said main railway, to any town or places, or works lying at a distance (not exceeding five miles), from the said main railway, by such course, route, or line respectively, as may be hereafter, by such directors, deemed necessary or desirable, together with proper wharfs, docks, basins, quays, warehouses, and other works, erections, and conveniences thereto, respectively appertaining; the same respectively to be made, constructed, established and conducted, in such manner as shall be provided for by an act or acts of parliament, to be applied for in the next session of parliament, or in case such act or acts shall not be applied for, or if applied for, shall not be obtained in the next session, then such as shall or may be applied for and obtained in any subsequent session of parliament, in which act or acts it is intended to introduce a clause to save harmless the several subscribers and proprietors of shares, and their respective heirs, executors, administrators, and assigns, from being liable in any event for any larger or other sum than what shall be so respectively subscribed by each of them as aforesaid. And further, that they, the said several persons parties hereto respectively, or their respective heirs, executors, administrators, or assigns, shall and will well and truly pay, or cause to be paid, the amount subscribed by each of them respectively, within ten years from the date hereof, in such sums, and at such places and times after the passing of the said act or acts as the directors, or others, authorised by the said act or acts shall, in conformity with the provisions thereof, direct or appoint; and they, the said

several persons, parties hereto respectively, do hereby, severally, for themselves, and for their several and respective executors, administrators, and assigns, undertake and agree that, in the event of such act or acts not being passed into a law, that each of them, severally and respectively, shall and will well and truly bear, pay, and allow, out of £1 per share, now paid by way of deposit, all the expenses already incurred, or hereafter to be incurred, attending the surveys and estimates for the said railway, docks, branches, and works, solicitor's and counsel's fees and charges, travelling expenses, and all other costs and charges of every description incident to the proposed undertaking; and to the application, or applications to parliament, such expenses, costs, and charges, to be computed and assessed, rateably, upon the amount of the shares or sums subscribed by each of the said several persons, parties to these presents. In witness, &c.

Name.	Residence.	Addition	No. of Shares.	Sums Subscribed.	Seal.	Witness

EDWARD LONEY STEPHENS, Secretary.

Southampton, April 15, 1831.

SOUTHAMPTON, LONDON, AND BRANCH RAILWAY COMPANY.

CAPITAL—£1,000,000, in 50,000 Shares, of £20 each.

DEPOSIT—£1 per Share.

TRUSTEES.

John Masterman, Esq.

James Barlow Hoy, Esq.

William Fitzhugh, Esq.

DIRECTORS.

George Henderson, Esq. Chairman

¹ R. Johnston, Esq. Deputy-chairman

Hon. P. B. De Blaquiere

John Story Penleaze, Esq. M.P.

William Fitzhugh, Esq.

James Barlow Hoy, Esq.

Esq.

Philip Le Fevre, Esq.

John King, Esq.

William Colson Westlake, Esq.

J. R. Keele, Esq. Mayor of

Southampton

Edwin Godden Jones, M.D.

Richard Davidson Pritchard, Esq.

Samuel Le Fevre, Esq.

Robert Shedden, Esq.

William James Le Fevre, Esq.

Esq.

With power to add to their number.

¹ MSS. correction.

Currie and Co., London
Messrs. Moss and Co., Liverpool
Messrs. Deane and Littlehales; Messrs. Knapp and Co.
Wickham, Mant, and Co., Winchester
Messrs. Knapp and Co., Alresford
Messrs. G. H. Knight and Son, Farnham
Messrs. Baggot, Seymour, and Co., Basingstoke
Messrs. Shrubsole and Lambert, Kingston
Messrs. W. T. and J. Haydon; Messrs. Sparkes and Lee, C
Messrs. Bassett, Sir R., and Co.; Messrs. Kirkpatrick, New
Messrs. St. Barbe, Lymington
Messrs. Grant and Co., Portsmouth
Messrs. Priaulx, Le Merchant, and Co., Guernsey
Messrs. and Co., Jersey

ENGINEER— Esq.

SOLICITORS.

Esq. London | John Barney, Esq. Sou

SECRETARY—E. L. Stephens, Esq.

² COMPANY'S OFFICES—High Street, Southampton

CORRESPONDING AGENT IN LONDON.

George Walter, Esq. 63, Old Broad Street

Applications for shares to be made at the above-mentioned
where books are now open for subscriptions.

SOUTHAMPTON AND LONDON RAILWAY

CAPITAL—£1,000,000, in Shares of £50 each

DEPOSIT—£2 per Share.

Robert Shedden, Esq.
Henry Shaw Lefevre, Esq.
Browne Roberts, Esq.

SOUTHAMPTON.

George Henderson, Esq. Chairman
The Hon. P. B. De Blaquiére
James Barlow Hoy, Esq.
Edwin Godden Jones, M.D.
William Fitzhugh, Esq.
William Colson Westlake, Esq.
John King, Esq.
W. J. Le Fevre, Esq.
William Ward, Esq.

With power to add to their number.

OFFICES—No. 81, Lombard Street, London; and No. 5, High Street, Southampton

SECRETARY—Edward Loney Stephens, Esq.
SOLICITOR—John Barney, Esq. Southampton
ENGINEER—Francis Giles, Esq.

At a numerous and highly respectable meeting, convened by public advertisement, and held at the city of London Tavern, on Monday, 23d January, 1832, Sir Thomas Baring, Bart. M.P. in the chair,

The following committee, who were requested at the last London meeting to consider the merits of this undertaking, viz.—

Sir Thomas Baring, Bart. M.P.
John Ivatt Briscoe, Esq. M.P.
Charles Shaw Lefevre, Esq. M.P.
John Storey Penleaze, Esq. M.P.
John Masterman, Esq.
Henry Shaw Lefevre, Esq.
John Osborne, Esq.

proceeded to enter into the details furnished by the managing committee; after which, the following resolutions, proposed by John Ivatt Briscoe, Esq., and seconded by Charles Shaw Lefevre, Esq., were carried unanimously:—

“That this meeting having heard the details and statements which have been submitted to them by the committee of the Southampton and London Railway Company, are of opinion,

“That the proposed line appears to be judiciously selected, and that the explanations given by Mr. Giles, the engineer, are satisfactory, and justify the expectation, that the whole work may be completed for the sum of £1,033,414, as stated in his estimate.

“That the committee have shown, that an adequate return may reasonably be expected from the conveyance of the number of passengers and quantity of traffic now annually passing along the route of the intended line; and as the railway will greatly increase the facility of communication between the metropolis and the southern and western parts of England, at a considerably diminished expense, an important additional return may fairly be anticipated. At the same time, it will

provide employment for numbers of the labouring classes, and be productive of great local and national advantages.

“That the managing committee appear to have been guided thus far in their proceedings by judgment, prudence, and economy.

“From the foregoing considerations, this meeting is decidedly of opinion, that the projected railway is an undertaking of great utility, highly deserving of public support, and which promises an ample return to the shareholders.”

It was further resolved unanimously, on the motion of John Storey Penleaze, Esq., seconded by John Ivatt Briscoe, Esq., “That the cordial thanks of the meeting be and are hereby given to Sir Thomas Baring, Bart., for the impartial investigation he has given to the subject, and for the luminous exposition afforded by him, and for his judicious conduct in the chair this day.”

SUMMARY OF THE DOCUMENTS SUBMITTED IN DETAIL AT THE AFORESAID MEETING, AND ON WHICH THE ABOVE RESOLUTIONS WERE FOUNDED :

	Annual amount, at the present charge for travelling and transport.			Annual amount at the proposed rate by railroad, being half the present charge.		
	£	s.	d.	£	s.	d.
1. An account of income from stage coaches at present passing along and near the proposed route, allowing to each coach only half its complement of passengers (viz. seven) - - - -	223,765	17	4	111,882	18	8
2. An account of income from travelling with post horses - - - -	11,044	16	0	5,522	8	0
3. An account of income from transport of coals - - - -	15,000	0	0	7,500	0	0
4. An account of income from the existing traffic by vans and waggons - - - -	62,088	0	0	31,044	0	0
	<hr/>			<hr/>		
	311,898	13	4	155,949	6	8
Mr. Stevenson, the engineer on the Liverpool line, estimates the annual cost of transport for the foregoing (including engineers, attendants, fuel, coaches, waggons, and locomotive engines, with their repairs) at £10,970 14s. 8d.						
Allowing double Mr. Stevenson's estimate, deduct - £21,941 9 4						
Deduct also for annual repairs of railway, expenses of establishments, &c. - 33,209 6 0						
				-	-	-
				55,150	15	4
				<hr/>		
Nett income derivable to the railroad, from the present traffic in goods and passengers - -				£100,798	11	4

Producing at the same time an annual saving to the public of
£155,949 6s. 8d.

It will be observed that the above nett income, founded only on the actually existing traffic, and calculated at half the present rate of charge, is wholly independent of all prospective advantages.

The following prospective advantages (excluded from the above calculations) may be expected greatly to increase the revenue of the Company:—

First—The increase of passengers,¹ when conveyed at twenty miles an hour, and at half the present expense.

Second—The additional supply of butcher's meat to the London markets.

Third—The supply of fish from the channel and west of England for London, and the towns on and near the line of railway.

Fourth—The conveyance of live sheep and lambs to the London market.

Fifth—The conveyance of foreign fruit, poultry, and eggs.

Sixth—The conveyance of all other articles of daily consumption to the London markets.

Seventh—The transport of grain and all other agricultural produce.

Eighth—The conveyance of chalk, and other manures.

Ninth—The conveyance of building materials.

Tenth—The conveyance of troops, naval and military stores, specie, mails, &c.

EDWARD L. STEPHENS, Secretary.

¹ The number of coach passengers between Manchester and Liverpool has increased about fourfold, and between Stockton and Darlington more than fifty-fold, since the establishment of their respective railways.

ESTIMATE OF THE PROBABLE EXPENSE OF CONSTRUCTING A LINE FOR A DOUBLE RAILWAY, WITH ITS NECESSARY PASSING PLACES, FROM THE TOWN OF SOUTHAMPTON TO VAUXHALL, LONDON, SEVENTY-SEVEN MILES IN LENGTH.

To excavating, embanking, forming, and trimming the roadway	£	400,000
To gravelling, fencing, and draining the railway	-	64,628
To bridges, culverts, and tunnels	-	157,320
To the purchase of property and compensations	-	116,900
To iron rails (50lbs. weight to the yard)	-	160,000
To stone sleepers, and fixing railway	-	84,880
		<hr/>
		983,728
Worksheds, act of parliament, professional expenses, and management, at 5 per cent.	-	49,686
		<hr/>
		£1,033,414

If the same good management be pursued, which has hitherto marked the proceedings of the committee of management, I am of opinion that the whole expense of this undertaking will be within the sum of £1,000,000.

I am also of opinion that the permanent expense of repairing and maintaining the railway will not exceed £23,000 a year, or about £300 a mile; that the expense of officers and establishments will be about £10,000, and the cost of transport upon the above trade will be about £22,000, making a total expenditure of £55,000 a year.

FRANCIS GILES, Civil Engineer.

January 30th, 1832.

Persons disposed to take shares in this undertaking, are requested to apply at either of the Company's offices, and to pay their deposits of £2 per share, to any one of the following bankers, to be placed to the credit of the committee of management:—

Messrs. Masterman, Peters, Mildred, and Co. London
 „ Williams, Deacon, Labouchere, and Co. London
 „ Raggett and Co. Basingstoke
 „ Maddison and Co. Southampton
 „ Atherley and Fall, Southampton

The parliamentary deed, and the rules for the protection of the shareholders, lie for signature at the offices, No. 81, Lombard Street, and No. 5, High Street, Southampton.

The managing committee are unceasingly engaged in forwarding this great national work, and are gratified to find that a conviction of its importance is fast gaining ground.

It is expressly provided that no sum beyond the deposits shall be called for until the act of parliament is obtained; and that no call shall afterwards be made exceeding £5 per share; and that an interval of three months at least shall intervene between every two calls.

Company's Office, Southampton,
 22d February, 1832.

LONDON AND SOUTHAMPTON RAILWAY.

CAPITAL—£1,000,000—Shares, £50 each.

DEPOSIT—£2 per Share.

COMMITTEE.—LONDON.

Blount, Edward, Esq.
 Carnac, James Rivett, Esq.
 Easthope, John, Esq.
 Henderson, George, Esq.
 Hibbert, John, Esq.
 Humphrys, Ambrose, Esq.

Jerningham, Edmund, Esq.
 Mackillop, James, Esq.
 Penleaze, John Storey, Esq. M.P.
 Shedden, Robert, Esq.
 Williams, Robert, Esq. M.P.
 Wright, John, Esq.

COUNTRY.

Baring, Sir Thomas, Bart.
 Beach, William Hicks, Esq.
 Blunt, Edward Walter, Esq.
 Brocas, Bernard, Esq.
 Chamberlayne, Thomas, Esq.
 Chute, William Lyde Wiggett, Esq.
 De Blaquiere, Hon. Peter Boyle
 Fitzhugh, William, Esq.
 Hambrough, John, Esq.
 Heathcote, Sir William, Bart.
 Hoy, James Barlow, Esq.
 Hunt, George, Esq.
 Jones, Edwin Godden, Esq.
 King, John, Esq.
 Lefevre, Charles Shaw, Esq. M.P.
 Le Fevre, William James, Esq.
 Lefroy, Christopher Edward, Esq.
 Ralfe, James, Esq.
 Sclater, William Lutley, Esq.
 Ward William, Esq.
 Westlake, William Colson, Esq.
 Whitchurch, James, Esq.
 Woodham, Thomas, Esq.
 With power to add to their number.

OFFICES—No. 46, Lothbury, London ; and No. 7, Portland Street,
Southampton

BANKERS.

LONDON—Messrs. Williams, Deacon, and Co. Birchin Lane ; Messrs.
Wright and Co. Henrietta Street, Covent Garden

SOUTHAMPTON—Messrs. Maddison ; Messrs. Atherley and Fall

SOLICITORS.

John Barney, Esq. Southampton

Messrs. Few, Hamilton, and Few, Henrietta Street, Covent Garden,
London

ENGINEER—Francis Giles, Esq.

SECRETARY—Richard Heathfield, Esq.

The expense of the proposed railway, agreeably to the estimate of Mr. Giles, the engineer, and comprising an ample allowance for all probable contingent expenses, is within £1,000,000. The calculation of income, founded upon official documents and actual observation, furnishes the prospect of a return exceeding that of any similar existing undertaking.

SUMMARY OF THE DOCUMENTS ON WHICH THE CALCULATION OF RETURN IS FOUNDED :

	Annual amount, at the present charge for travel- ling and trans- port.	Annual amount, at the proposed rate by railroad, being half the present charge.
	£ s. d.	£ s. d.
1. An account of income from stage coaches at present passing along and near the proposed route (taken from Stamp Office returns), allowing to each coach only half its complement of passengers, (viz. seven)	223,765 17 4	111,882 18 8
2. An account of income from travelling with post horses - -	11,044 16 0	5,522 8 0
3. An account of income from transport of coals from Southampton to the towns on the line, as far as Basingstoke - - - -	7,000 0 0	3,500 0 0
4. An account of income from the existing traffic by vans and wag-gons - - - -	62,088 0 0	31,044 0 0
	<u>303,898 13 4</u>	<u>151,949 6 8</u>

The above income, founded only on the actually existing traffic, and calculated at half the present rate of charge, is wholly independent of all prospective increase.

The committee have the satisfaction to observe, that the foregoing statement has not only stood the test of close scrutiny, but that, in conformity with the principles of calculation which have been adopted by the London and Birmingham Railway Company, the following sums might be added :—

For coach passengers from places adjacent to the proposed railway, as obtained from Stamp Office returns, at railway prices, add - - - -	£57,342 2 8
The London and Birmingham Company have proved by evidence that nine passengers may be considered a fair average by each coach: taking, therefore, nine instead of seven, as in the above statement, add - - - -	48,350 0 4
The London and Birmingham Company have assumed an increase of 50 per cent. upon the passengers, in consequence of the cheapness, celerity, and safety of the railway conveyance; and they have proved by evidence, that a much greater increase has taken place on existing railways. For 50 per cent. increase on the above coach passengers, add - - - -	108,787 10 10
For increase of posting travellers - - - -	5,522 8 0
For gigs and other light conveyances - - - -	2,500 0 0
	<u>222,502 1 10</u>
Add as above - - - -	<u>151,949 6 0</u>
Would show a return of - - - -	£374,451 8 6

Experience has proved, that passengers and light goods, with animal and vegetable supplies for the markets, are the most productive sources of railway revenue; and a reference to the annexed plan will show how successfully this line will embrace such objects; and that while it offers the most pleasant and economical conveyance to the coast of Hampshire, from so large a portion of the kingdom, it facilitates the intercourse now existing by means of the Southampton steam packets, with Guernsey, Jersey, the Isle of Wight, the ports of Cherbourg and Havre, and with Paris by the contemplated railway from Havre to that capital.

Amongst other prominent advantages on the proposed line of railway, are the consent and co-operation of nearly all the landed proprietors, a soil and levels well adapted to its formation and to its permanent maintenance, at a moderate expense. The engineer estimates the annual charge, for the entire management, repairs and locomotive power, as not likely to exceed £56,000, on the existing traffic, of £151,949 6s. 8d., and £55,000 more on the assumed increased traffic of £222,502 1s. 10d.

The map or plan, section and book of reference, have been deposited with the proper officers, as required by the standing orders of parliament; and the committee intend to apply for an act immediately on the opening of the next session.

It is expressly provided that no sum beyond the deposit shall be called for, until the act of parliament be obtained; that no call shall afterwards be made exceeding £5 per share, and that three months, at least, shall intervene between every two calls; and the liability of the shareholders will be limited to the amount of their respective subscriptions.

It is expected that the railway will be in use, for the distance of at least twenty miles out of London, within two years from the act of parliament being obtained, and that the whole work will be completed within three years from that time.

Application for shares, to be addressed to the committee, at the Company's Office, No. 46, Lothbury, London, or No. 7, Portland Street, Southampton.

5th December, 1833.

LONDON AND SOUTHAMPTON RAILWAY.

CAPITAL—£1,000,000—Shares, £50 each.
DEPOSIT—£2 per Share.

DIRECTORS.

De Blaquiére, Hon. Peter Boyle
Easthope, John, Esq.
Henderson, George, Esq.
Hibbert, John, Esq.
Humphrys, Ambrose, Esq.
Jerningham, William Edmund, Esq.
Jones, Edwin Godden, Esq.
King, John, Esq.
Mackillop, James, Esq.
Penleaze, John Storey, Esq. M.P.
Shedden, Robert, Esq.
Whitchurch, James, Esq.
Westlake, William Colson, Esq.
Williams, Robert, Esq. M.P.
Wright, John, Esq.

Offices—No. 46, Lothbury, London; and No. 7, Portland Street, Southampton.

BANKERS.

London - - Messrs. Williams, Deacon, & Co. Birchin Lane;
Messrs. Wright & Co. Henrietta Street,
Covent Garden
Southampton - Messrs. Maddison; Messrs. Atherley and Fall

SOLICITORS.

London - - Messrs. Few, Hamilton, and Few, Henrietta
Street, Covent Garden
Southampton - Messrs. Barney and Gilbert

ENGINEER—Francis Giles, Esq.

SECRETARY—Richard Heathfield, Esq.

The expense of the proposed railway, according to the estimate of Mr. Giles, the engineer, supported fully and satisfactorily by evidence before the two houses of parliament is £1,000,000. The evidence as to income is as follows—viz.

PRESENT TRAFFIC, ESTIMATED AT RAILWAY PRICES.

Coach passengers	-	-	£118,498	18	0
Posting	-	-	7,082	8	0
Coach parcels	-	-	12,711	16	8
Waggon traffic	-	-	29,768	6	0
Cattle traffic	-	-	27,155	0	0
			195,216	8	8
Cost of maintenance of way and locomotive power	-	-	87,798	11	5
					107,417 17 3

PROSPECTIVE TRAFFIC, ADDITIONAL TO THE ACTUAL TRAFFIC.

Torbay fishery, upon the present amount of fish caught	£	s.	d.
-	23,333	6	8
100 per cent. increase on passengers. The Liverpool and Manchester traffic has trebled, and the Stockton and Darlington has increased twenty-fold	-	118,498	18 0
Increase on country killed meat	-	4,666	13 4
Increase on heavy goods	-	5,569	4 0
		152,068	2 0
Cost of maintenance of way and locomotive power upon such increased trade	-	52,000	0 0
		100,068	2 0
Total, or supposed profit	-	£207,485	19 3

Nothing is assumed in the above calculations for an increase of passengers by private carriages, post chaises, or coach parcels, nor is any revenue assumed for the carriage of cargoes which may be discharged in the Southampton water; for passengers travelling in gigs, an increase of the Torbay fishery, or for the transport of agricultural, dairy, or garden produce, timber, building materials, chalk and other manure. Neither is anything assumed for the passengers from the west of England who may come by way of Southampton, instead of joining the line at Basingstoke, giving an increase of $32\frac{1}{2}$ miles for each passenger. It may be observed further, that the intercourse by steam vessels between Falmouth, Plymouth, and Portsmouth, is now considerable, and that the passengers by these vessels, so far as respects those to and from London and its vicinity, will of course proceed by way of Southampton, on the completion of the railway, and in increased numbers.

Experience has proved that passengers, light goods, and provisions, are the most productive sources of railway revenue; and a reference to the annexed plan will show how successfully this line will embrace such objects. That whilst it offers the most pleasant and economical conveyance to the coast of Hampshire, from so large a portion of the kingdom, it facilitates the intercourse now existing by means of the Southampton steam packets, with Guernsey, Jersey, the Isle of Wight, the ports of Cherbourg and Havre, and with Paris, even without the contemplated railway from Havre to that capital.

The act of parliament which has been obtained, expressly provides that no call shall be made exceeding £5 per share, and that three months, at least, shall intervene between every two calls, nor does the liability of a shareholder exceed the amount subscribed. Two pounds per share is to be paid at the time of subscribing.

It is expected that the railway will be in use, for the distance of at least twenty miles out of London, in the course of two years, and that the whole work will be completed within three years.

London, August, 1834.

NOTE.—The annexed plan describes the London and Southampton

railway, and a line from Basing to Bath and Bristol, which, if executed, would connect Bristol with Southampton and each of those ports with the metropolis.

LONDON AND SOUTHAMPTON RAILWAY.

CAPITAL—£1,000,000—Shares, £50 each.

DIRECTORS.

Drew, John Watkins, Esq. Easthope, John, Esq. Eyre, Vincent, Esq. Eyre, John Lewis, Esq. Hibbert, John, Esq. Humphrys, Ambrose, Esq. Jerningham, William Edmund, Esq.	Chaplin, William, Esq. Garnett, Robert, Esq. Cooke, Thomas King, John, Esq. M'Gillivray, Simon, Esq. Shedden, Robert, Esq. Waymouth, Henry, Esq. Wright, John, Esq.
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Office—No. 13, Salisbury Street, Strand, London

BANKERS.

Messrs. Wright and Co. Henrietta Street, Covent Garden
 ,, Williams, Deacon, and Co. Birch Lane

SOLICITORS—Messrs. Few, Hamilton and Few, Henrietta Street, Covent
 Garden, London; John Barney, Esq. Southampton

ENGINEER—Francis Giles, Esq.

SECRETARY—William Reed, Esq.

The expense of the proposed railway according to the estimate of Mr. Giles, the engineer, supported fully and satisfactorily by evidence before the two houses of parliament is £1,000,000. The evidence as to income is as follows—viz.

PRESENT TRAFFIC, ESTIMATED AT RAILWAY PRICES.

	£	s.	d.	£	s.	d.
Coach passengers - - -	118,498	18	0			
Posting - - -	7,082	8	0			
Coach parcels - - -	12,711	16	8			
Waggon traffic - - -	29,768	6	0			
Cattle traffic - - -	27,155	0	0			
	195,216			8	8	
Cost of maintenance of way and of locomotive power - - -	87,798	11	5			
	107,417			17	3	

	£	s.	d.
Brought forward - - - -	107,417	17	3
PROSPECTIVE TRAFFIC, ADDITIONAL TO THE ACTUAL TRAFFIC.			
Torbay fishery, upon the present amount of fish caught - -	23,333	6	8
100 per cent. increase on passengers. — The Liverpool and Manchester traffic has trebled, and the Stockton and Darlington has increased twenty-fold - -	118,498	18	0
Increase on country killed meat - -	4,666	13	4
Increase on heavy goods - -	5,569	4	0
	152,068	2	0
Cost of maintenance of way and locomotive power upon such increased trade - - - -	52,000	2	0
	100,068	2	0
Total, or supposed profit,	£207,485	19	3

Nothing is assumed in the above calculations for an increase of passengers by private carriages, post chaises, or coach parcels, nor is any revenue assumed for the carriage of cargoes which may be discharged in the Southampton water; for passengers travelling in gigs, an increase of the Torbay fishery, or for the transport of agricultural, dairy, or garden produce, timber, building materials, chalk and other manure. Neither is anything assumed for the passengers from the west of England who may come by way of Southampton, instead of joining the line at Basingstoke, giving an increase of $32\frac{1}{2}$ miles for each passenger. It may be observed further, that the intercourse by steam vessels between Falmouth, Plymouth, and Portsmouth, is now considerable, and that the passengers by these vessels, so far as respects those to and from London and its vicinity, will of course proceed by way of Southampton, on the completion of the railway, and in increased numbers.

Experience has proved that passengers, light goods and provisions, are the most productive sources of railway revenue; and a reference to the annexed plan will show how successfully this line will embrace such objects. That whilst it offers the most pleasant and economical conveyance to the coast of Hampshire, from so large a portion of the kingdom, it facilitates the intercourse now existing by means of the Southampton steam packets, with Guernsey, Jersey, the Isle of Wight, the ports of Cherbourg and Havre, and with Paris, even without the contemplated railway from Havre to that capital.

The act of parliament which has been obtained, expressly provides, that no call shall be made exceeding £5 per share, and that three months, at least, shall intervene between every two calls; nor does the liability of a shareholder exceed the amount subscribed.

RAILWAY FROM BASING, IN THE COUNTY OF HANTS,
TO BATH.

CAPITAL—£1,000,000 sterling, in 10,000 Shares, of £100 each.
DEPOSIT—£5 per Share, not to be called for until half the capital shall
have been subscribed.

The Committee of Management, having determined not to proceed with
this undertaking until half the capital is subscribed, do undertake
to indemnify the subscribers against any claim for expenses until
£500,000 shall have been subscribed.

GENERAL COMMITTEE.

- | | |
|---|---------------------------------------|
| *Jno. Alexander, Esq. Mayor of
Newbury | Sir Thomas Fellowes |
| Sir Edmund Antrobus, Bart. | Rev. Francis Fulford |
| William Appletree, Esq. | William Gaisford, Esq. |
| Rev. T. Harvey Ashworth | Joseph Gilbert, Esq. |
| The Mayor of Basingstoke, for
the time being | William Gilbert, Esq. |
| William Hicks Beach, Esq. | Thomas Hasker, Esq. |
| *Robert Biddulph, Esq. M.P. | Joseph Hayward, Esq. |
| Edward Blount, Esq. | The Right Hon. the Lord Ha-
warden |
| Edward Walter Blunt, Esq. | George Henderson, Esq. |
| Right Hon. the Lord Bolton | *John Hibbert, Esq. |
| Richard Booth, Esq. | *Ambrose Humphrys, Esq. |
| Capt. the Hon. Pleydell Bou-
verie, M.P. | *William Coxeter James, Esq. |
| Bernard Brocas, Esq. | Rev. Lancelot Miles Hulton |
| Edward B. Bunny, Esq. | Thomas Jefferys, Esq. |
| William Burbey, Esq. | *Edmund Jerningham, Esq. |
| Col. Burslem | Edwin Godden Jones, Esq. |
| The Right Hon. the Lord Cal-
thorpe | John Leech, Esq. M.P. |
| The Hon. Frederick Calthorpe | Charles Shaw Lefevre, Esq. M.P. |
| The Right Hon. the Earl of Car-
narvon | Christopher Edward Lefroy, Esq. |
| William Lyde Wigget Chute,
Esq. | Thomas Noyes Lewis, Esq. |
| *John Clark, Esq. | *Walter Long, Esq. M.P. |
| John Compton, Esq. | *Charles Lowder, Esq. |
| *Edward Cooper, Esq. | *William Heald Ludlow, Esq. |
| *William Courtenay, Esq. | Charles Lyford, Esq. |
| Rev. James Digweed | Sir Alexander Malet, Bart. |
| *John Easthope, Esq. | *S. M'Gillivray, Esq. |
| Abel Easton, Esq. | Thomas May, Esq. |
| *Vincent Eyre, Esq. | Paulet St. John Mildmay, Esq. |
| *J. L. Eyre, Esq. | Sir Harry Neale, Bart. |
| | H. J. Olivier, Esq. |
| | Rev. John Orde |
| | George Paice, Esq. |
| | J. L. Phillips, Esq. |
| | Charles Lewis Phipps, Esq. |

Rev. E. J. Phipps	T. Hogan Smith, Esq.
The Right Hon. Henry Pierrepont	John Stancomb, Esq.
Arthur Pigot, Esq.	William Stancomb, Esq.
Rev. Richard Pole	Capt. Tayler, R.N.
Samuel Salter, Esq.	Stephen Terry, Esq.
A. E. Saunders, Esq.	William Tinker, Esq.
Thomas Hosier Saunders, Esq.	*Richard Townsend, Esq.
*William Lutley Sclater, Esq.	William Vigor, Esq.
*Capt. H. W. Scott, R.N.	Rev. Thomas A. Warren
Thomas Scott, Esq.	*Henry Waymouth, Esq.
Rev. A. Smith	Rev. Lovelace Bigg Wither
Thomas Assheton Smith, Esq.	*John Wright, Esq.
M.P.	John Young, Esq.

* COMMITTEE OF MANAGEMENT,
With power to add to their number.

Robert Biddulph, Esq. M.P.	Edmund Jerningham, Esq.
John Clark, Esq.	Walter Long, Esq. M.P.
Edward Cooper, Esq.	Charles Lowder, Esq.
William Courtenay, Esq.	S. M'Gillivray, Esq.
John Easthope, Esq.	William Heald Ludlow, Esq.
Vincent Eyre, Esq.	William Ludley Sclater, Esq.
J. L. Eyre, Esq.	Capt. H. W. Scott, R.N.
John Hibbert, Esq.	Richard Townsend, Esq.
Ambrose Humphrys, Esq.	Henry Waymouth, Esq.
William Coxeter James, Esq.	John Wright, Esq.

BANKERS.

London - - -	Messrs. Cocks, Biddulph and Biddulph, No. 43, Charing Cross
Bristol - - -	Messrs. Elton, Baillie, Amos and Co. Messrs. Stukey and Co.
Bath - - -	Messrs. Hobhouse, Phillott and Lowder Messrs. Tuffnell and Co. Messrs. Tugwell and Co.
Frome - - -	Messrs. Stuckey and Co.
Bradford and Trowbridge	Messrs. Hobhouse, Phillott and Lowder
Devizes - - -	Messrs. Tylee and Co.
Newbury - - -	Messrs. Lock, Hughes and Co.
Basingstoke - - -	Messrs. Bunny and Slocock Messrs. Raggett and Co.

ENGINEERS.

Francis Giles, Esq.
William Brunton, Esq.

SECRETARY.

William Reed, Esq.

In the month of April last, when the London and Southampton railway bill was under the consideration of parliament, a meeting of land owners, occupiers and others, was held at Basingstoke, in anticipation of that bill being passed into a law, for the purpose of originating mea-

tures for the extension of a railway from the Southampton line, at or near Basing, to or near Newbury, Hungerford, Devizes, Trowbridge and Bradford, and thence to Bath;—and the London and Southampton railway bill having since not only received the sanction of the legislature, but the work on that line being in active prosecution, many of the landed proprietors and other persons of influence interested in the country between Basing and Bath, and to the westward of Bath, and also residing in London, agree on the propriety of that measure.

The grounds for promoting this line of communication in preference to any other, for the west of England, are manifold; and in each particular, clearly and distinctly marked.

1. No less distance than that proposed by this line has been suggested for connecting London and Bath by railway, being 106 miles only.

2. That distance, as to the cost, is reduced to sixty-two miles, by the London and Southampton railway, which, passing through Basing, will extend over to the first forty-four miles, and the connection of Bath with London by railway will be thus easily accomplished.

3. The proposed line will not only pass through or near the populous towns of Newbury, Devizes, Trowbridge, and Bradford, and the fertile and populous Vale of Pewsey, but bending in its course, between Devizes and Bath, towards Frome, presents the capability of connecting with it the whole of the western peninsula, by a line intersecting that town, and thence westward, to Taunton, and so presenting facilities for its further extension westward.

4. The two-fold purpose will be effected of establishing a communication by railway between the western counties and London, and also when carried on to Bristol, between the Irish sea and the English channel, at the port of Southampton, extending on one hand towards South Wales and Ireland, and on the other towards France.

5. These several great purposes will be accomplished, as far as Bath, for a sum not exceeding (by a careful estimate) £1,000,000 sterling, and the combination of these purposes in one comprehensive plan does, at the least, appear to be altogether decisive of its claim to general support, and especially to the support of all persons interested in and desirous of promoting the prosperity of the entire country from London to the Land's End.

6. No interference with the rights of property will be necessary within forty-four miles of the metropolis, and the landed proprietors on the remaining sixty-two miles, whose property the line intersects, are generally favourable to the measure.

7. The terminus at the river Thames at Vauxhall, renders the line peculiarly free from objection in its approach to the metropolis, and combines, by means of the bridges, great advantages to passengers, as well as a most convenient point for the distribution, by land and water, of the daily supplies for the London market, which will constitute one of the most important uses of the railway.

8. The small capital required to effect this important communication and the proportional charge of maintaining the way must have a decided tendency to lower the tolls. This consideration gives to the public a strong interest in the great lines of railroad being few in

number and the most judiciously chosen ; in their being executed and conducted with judgment and economy ; and in the passengers and carriage of goods and market supplies being concentrated, as much as conveniently may be, on one and the same line. This public object will be advanced in the highest possible degree by the line proposed.

On the subject of the returns, daily experience shows that the intercourse and traffic in populous districts increase, on the establishment of railways, in a ratio so far surpassing any previous calculation, as to render it no longer matter of doubt, with those who have much considered the subject, whether great and leading lines of communication by railway will afford an adequate return of income to the proprietors. The following estimate is, therefore, obviously much below the probable returns on the line between Basing and Bath :—

ESTIMATE OF INCOME.

From parcels under 500 lbs. weight - - -	£9,345	0	0
Travellers, now travelling post - - -	4,259	0	0
Goods, per waggon, and cattle - - -	80,118	0	0
Coach passengers, adding 100 per cent. for increase by railway - - -	151,284	0	0
	<hr/>		
	£245,006	0	0
Cost of maintenance of way, and of locomotive power	120,000	0	0
	<hr/>		
Nett profit - - -	£125,000	0	0

Or 12½ per cent. per annum on the capital, without including country killed meat or farm-yard and dairy produce. The traffic on the Liverpool and Manchester Railway having increased threefold, and on the Stockton and Darlington Railway twentyfold, it will be clear that the returns must necessarily be very considerably higher.

There will be but two tunnels on the line, one at Bradford, half a mile in length, and one through Claverton Hill, on entering Bath, one mile in length.

All measures deemed necessary, preparatory and previous to the passing of an act of parliament, will be conducted by the committee of management, who are to have the control of the fund constituted by the deposits.

Until an act of incorporation of the Company shall have been obtained, not more than the deposit of £5 per share to be called ; and no subscriber will on any consideration be liable beyond the amount subscribed.

The act will provide that not more than £10 per share shall be called at any one time, nor at a less interval than three months between the calls.

The act of incorporation of the London and Southampton Railway Company provides that all rates, tolls, and sums authorised by the act, shall be taken from all persons alike, under the same or similar circumstances, and that the railway shall (subject to regulation) be a public road, open to all parties on payment of the tolls.

Application for copies of prospectus and for shares may be made at the office of the Company, No. 9, John Street, Adelphi, or No. 14, Argyle Buildings, Bath; to the several bankers; or at the office of either of the undermentioned solicitors, viz. :—Messrs. Cruttwell and Son, Bath; Alfred Whitaker, Esq., Frome; John Bush, Esq., Bradford; Elijah Bush, Esq., Trowbridge; Messrs. Salmon, Tugwell, and Meek, Devizes; John Mathews, Esq., Hungerford; Robert Baker, Esq., Newbury; or W. A. Lewis, Esq., Basingstoke.

London, 9th February, 1835.

LONDON AND SOUTHAMPTON RAILWAY COMPANY.

At the eighth half-yearly general meeting of the proprietors of this Company, held on Friday, the 31st August, 1838, at the City of London Tavern,

John Easthope, Esq., M.P., in the chair.

1. The advertisement calling the meeting was read.
2. The minutes of the last meeting were read.
3. The following statement of receipts and expenditure to the 30th June last was read, viz. :—

AN ACCOUNT OF RECEIPTS AND PAYMENTS TO THE 30TH JUNE, 1838.

RECEIPTS.				
On calls	-	-	-	-
Coach traffic	-	-	-	-
Loan	-	-	-	-
Interest	-	-	-	-
				£1,247,795 4 4
PAYMENTS.				
Expenditure in raising the capital, procuring the act of parliament, &c.	-	-	-	-
Land and compensation, including charge for surveying and valuing	-	-	-	-
Conveyancing and law charges	-	-	-	-
Cuttings and embankments, bridges, culverts, and stores for the same, stations, temporary buildings, fencing, draining, &c.	-	-	-	-
Iron rails and chairs and sleepers	-	-	-	-
Engines, waggons, implements, and tools and stores for the same	-	-	-	-
Engines and carriages for traffic	-	-	-	-
Surveying and engineering	-	-	-	-
Salaries, wages, rent and taxes, printing, stationery, postages, travelling, and other incidental expenses	-	-	-	-
Carried forward	-	-	-	£1,236,400 5 6

	Brought forward	-	£1,236,400	5	6
Directors' expenses and fines from the commencement of the undertaking	-	-	-	3,050	0 0
Police	-	-	221	7	5
Locomotive power—Coke, engine driving, repairs of engines and tenders, men's wages, repairing			914	7	6
Coach disbursement—Guards and porters' wages, printing and stationery, and petty expenses	-	-	245	12	3
Maintenance of way—Wages and material	-	-	447	6	8
				<u>1,828</u>	<u>13 10</u>
				£1,241,278	19 4
Cash in hand	-	-	516	5	0
Funded property in 3 per cent. consols, invested as required by the 14th clause of the act of parliament	-	-	6,000	0	0
				<u>6,516</u>	<u>5 0</u>
				£1,247,795	4 4

REPORT.

The following report was then read, viz. :—

“ Until the present occasion the directors have had to meet the proprietors with promises of what should be accomplished in constructing the railway, and with expressions of their belief in an ample traffic; they have now the satisfaction of meeting them under different circumstances.

“ The promises in regard to the opening of a part of the railway have been redeemed—the hopes more than realised. The line was opened to Woking Common, a distance of twenty-three miles from London, on the 21st of May last, and although so far, it passes through or approaches no town of great importance; and though this temporary terminus is not advantageously situated as regards its proximity to either of the great lines of road to the south or south-west parts of the kingdom, the traffic has exceeded previous calculation.

“ During the twelve weeks up to the 12th instant there have been carried 93,795 passengers. The amount received has been £11,059 17s. 3d.

“ Of these were carried, during the first four weeks, 29,127; being a daily average of 1,040 passengers. Amount received, £3,085 18s. 11½d.

“ During the second four weeks there were carried 31,585; being a daily average of 1,128 passengers. Amount received, £3,755 0s. 8d.

“ And there were carried during the third four weeks, 33,083½; being a daily average of 1,181 passengers. Amount received, £4,218 17s. 7½d.

“ Thus showing a steady gradual increase of traffic.

“ The directors do not wish to attach undue importance to these facts and figures, but they deem it to be their duty to state them, inasmuch as it will be found that they more than justify the statement of anticipated traffic which was published twelve months ago. These results will, therefore, enable the proprietors and the public to judge of the degree of credence which may be given to the remaining estimates of traffic contained in the same publications. That the latter will be fully realised, as the former have been exceeded, the directors entertain not the slightest doubt; and they believe the time is arrived when the prognostications of those who, from various motives, have decried the undertaking both as impracticable and profitless, will be set down at their true value; and that this railway will take its proper place in the estimation of the public, among those other enterprises of the same kind which are now about to confer a benefit on the community at large, whilst they afford a liberal return for private capital.

“ As respects the more extended opening of the line, the directors meet the proprietors on equally satisfactory grounds. But for the hindrances which experience proves to be inseparable from the completion of extensive works, the directors would have so far exceeded their former promises as to have this day congratulated the proprietors on that further opening, which, by the report of the 28th of February last, it was ‘ confidently hoped to effect during the autumn of the present year.’ As it is, the directors have fixed the 18th of next month for that opening, being eighteen days from the present time. This opening will take the railway to Shapley, which is within a short distance of the great south-western road. The embankments between that point and Basingstoke will be finished before the close of the present year, and the rails (which are already contracted for) will be laid so as to open the line to that town, or farther, very early in the spring.

“ The works between Basingstoke and Winchester are proceeding with great energy. The zeal and ability of the contractor are, from previous experience, known to be such as to afford the greatest confidence to the directors, in the progress of the works intrusted to him.

“ The works between Winchester and Southampton are in a very advanced state: the directors have not yet determined whether it will be expedient to open that part of the line before the coming winter.

“ The directors congratulate the proprietors on the fact, that up to the present time no accident has occurred in consequence of the opening of the railway. Some delays in the arrival of the trains have taken place, occasioned by the insufficiency of locomotive power, owing to the non-delivery of engines at the stipulated time, as well as to the defects in some of those which have been received; but this temporary evil is in course of being remedied. The directors have contracted for an additional number of locomotive engines. Carriages sufficient for the traffic of the extended line are already in the possession of the Company.

“ The proprietors are, perhaps, aware, that the traffic has, up to the present time, been confined to the conveyance of passengers. No goods or cattle have been carried along the railway; the means for so doing are in active preparation.

“ In conformity with the resolution passed at the general half-yearly meeting held in February last, the directors have caused a survey to be

made for a branch line to Portsmouth and Gosport, and have also taken the necessary steps for applying to parliament next session for leave to make that line, and they recommend the proprietors now to adopt such resolutions as will enable the directors of the London and Southampton Railway to complete that design.

“By order of the court of directors,

WILLIAM REED, Secretary.”

Whereupon it was resolved—That the report of the directors as now read be received and adopted, and that the same be printed and circulated amongst the proprietors.

Resolved—That in pursuance of the preparatory and preliminary proceedings, already authorised, for extending a branch of this railway to Portsmouth or Gosport, both or either, the directors be now authorised and requested to adopt such measures, and to enter into such arrangements as they shall deem expedient for procuring the necessary capital and obtaining the sanction of parliament thereto.

A code of bye-laws was submitted to the meeting and read.

Resolved—That the same be approved and adopted.

The chairman said it was required by the act of parliament that the bye-laws of the Company should obtain the sanction of the proprietors at one of their meetings, previously to going before the magistrates for their sanction. He therefore begged to propose to the meeting the adoption of the bye-laws which had just been read.

Resolved—That the same be approved and adopted.

Resolved—That the warm thanks of the meeting be given to the chairman and board of directors, for their able and indefatigable superintendence of the affairs of the Company.

LONDON AND SOUTHAMPTON RAILWAY COMPANY.

At the ninth half-yearly general meeting of the proprietors of this Company, held on Wednesday, the 27th February, 1839, at the offices of the Company, at Nine Elms, Vauxhall,

John Easthope, Esq. M.P., in the chair.

1. The advertisement calling the meeting was read.

2. The minutes of the last half-yearly general meeting, and of the special general meeting held on the 20th November, 1838, were read.

The following report was then read :—

REPORT.

“The directors of this undertaking, at the ninth half-yearly general meeting of its proprietors, report the following statement of the finances of the Company, viz.—

AN ACCOUNT OF RECEIPTS AND PAYMENTS TO DECEMBER 31st, 1838.

		RECEIPTS.			
On calls	-	-	-	-	- £1,280,791 0 0
Coach traffic	-	-	-	-	- 31,734 4 9*
Loan	-	-	-	-	- 271,200 0 0
Interest	-	-	-	-	- 5,572 14 7
Total	-	-	-	-	- £1,589,297 19 4

PAYMENTS.		£.	s.	d.
Expenditure in raising the capital, procuring the act of parliament, &c.	- - - - -	41,467	2	0
Land and compensation, including charge for surveying and valuing	- - - - -	263,555	11	7
Conveyancing and law charges	- - - - -	12,081	17	2
Cuttings and embankments, bridges, culverts, and stores for the same, stations, temporary buildings, fencing, draining, &c.	- - - - -	792,580	1	2
Iron rails, and chairs, and sleepers	- - - - -	257,538	9	1
Waggons, implements, and tools and stores	- - - - -	55,976	15	7
Engines and carriages	- - - - -	79,177	17	4
Surveying and engineering	- - - - -	26,706	9	9
Salaries, wages, rent and taxes, printing, stationery, postage, travelling and other incidental expenses	- - - - -	18,909	2	10
Directors' expenses and fines, from the commencement of the undertaking	- - - - -	3,550	0	0
Debenture bond stamps, and interest	- - - - -	4,750	17	5

COST OF MAINTAINING THE WAY AND WORKING
THE LINE.

Locomotive power—coke, oil, cotton, waste, &c., engine driving, repairs of engines, and tenders, men's wages, repairing, and salary of superintendents	- - - - -	£8,968	2	1
Couch disbursement—Clerks' salaries, guards and porters' wages, repairs of carriages, trucks and horse boxes, cleaning and oiling carriages, printing and stationery, and petty expenses	- - - - -	4,581	12	0
Police	- - - - -	1,162	4	3
Maintenance of way	- - - - -	3,779	16	6
		<u>£18,491</u>	<u>14</u>	<u>10</u>
		£1,574,785	18	9
Cash in hand	- - - - -	8,512	0	7
Funded property in 3 per cent. consols, invested as required by the 14th clause of the act of parliament	- - - - -	6,000	0	0
Total	- - - - -	<u>£1,589,297</u>	<u>19</u>	<u>4</u>

MONTHLY RECEIPTS.—TRAFFIC.

1838.		£	s.	d.
June	17 - - - - -	3,085	18	11½
July	15 - - - - -	3,755	0	8
August	12 - - - - -	4,218	17	7½
September	9 - - - - -	3,805	0	3

						£.	s.	d.
October	7	-	-	-	-	3,967	2	8½
November	4	-	-	-	-	5,072	2	2½
December	2	-	-	-	-	4,220	10	6½
„	24	-	-	-	-	4,334	17	11
						<hr/>		
						£32,439	19	10

MEM.—It will be seen that this sum is greater than the item in the above account: it comprises a sum of £725 15s. 2d. which was received in December, but not included in the account, not having been paid into the hands of the Company's banker until January.

“It will be in the recollection of the proprietors, that when the directors met them in August last, it was intended to open the railway as far as the Winchfield and Hartley Row station, as soon as the completion of the works will allow. This was done on the 24th of September, and the effect, as far as the traffic of the line is concerned, has been to bring to it a majority of the coaches travelling to the south and south-west of England.

“The number of passengers on this line of country is small in the winter months as compared with those of the summer; and therefore the opening of the line between Woking Common and Winchfield has done little more than sustain the same amount of revenue which has accrued during the summer months for the shorter length between London and Woking Common.

“The actual traffic viewed in relation to the season of the year, and the competition of coaches which is not likely long to continue, has fully equalled Mr. Chaplin's estimate, published in August, 1837.

“On the line between Winchfield and Basingstoke, and also between Winchester and Southampton, the cuttings and embankments are, with very trifling exceptions, completed, and a considerable part of the permanent road is laid. These portions of the line will, as before stated, be ready for opening in May next. This will render available about twenty miles more of the line, in addition to the thirty-eight miles, already opened, and leave unfinished only the eighteen miles between Basingstoke and Winchester. These unfinished works between Basingstoke and Winchester, it will be recollected, were not commenced until after the passing of the amendment act, which greatly improved this portion of the line by authorising a considerable deviation. This work is all comprised in one contract, with Mr. Brassey, and is proceeding most satisfactorily, although the section still presents a large quantity of unfinished earth-work; but the energy which is evinced, and which is in unison with the conduct of the same contractor in former instances, affords the directors entire confidence in the completion of Mr. Brassey's contract at the stipulated time, viz., the 1st of May, 1840, on which day the directors believe the whole distance to Southampton will be opened. Of the 3,200,000 cubic yards of cuttings and embankments required to be removed for the formation of the road in this district, 1,800,000 yards are already executed, leaving 1,400,000 yards to be removed. The various unfinished works being all in progress under contract, the cost of completing them is no longer a matter of doubtful estimate, or liable to any other than very trifling contingencies. And although, since the last estimate

was laid before the proprietors, in February, 1837, many changes have been made for the purpose of improving the line, and rails of 75 lbs. to the yard have been substituted for rails of 63 lbs., yet the directors are enabled to state, and it will doubtless be satisfactory to the proprietors to learn, that the whole cost of the land and railway will be less than the amount specified in that estimate.

“On the other hand, the sum of £75,000 estimated, or rather assumed, on that occasion as the cost of stations, engines, carriages, waggons, and machinery, has been found entirely insufficient to provide these accommodations on such a scale as is required by the probable traffic of the railway, and due attention to public convenience. The directors have deemed it prudent, and ultimately economical, to construct these establishments on the requisite scale at the outset, in preference to merely opening the line of railway as a road, and then having to incur fresh expenses in altering and adding to inadequate establishments, besides failing, until that object should be accomplished, in either giving satisfaction to the public, or doing justice to the character and capability of the undertaking.

“There has been no unnecessary expense in architectural designs or decorations. The objects aimed at have been utility and durability, at the smallest practicable cost; and although the expense will greatly exceed the estimated or assumed sum of £75,000, yet the directors have the satisfaction to inform you that they will be enabled to complete the whole without calling for any extension of capital, or contemplating any further application to parliament. They have only to ask of the present meeting a resolution empowering them to borrow the remaining part of the sum of £460,000, authorised by the acts of parliament to be raised by way of loan, and whereof a sum of £321,200 has already been borrowed on debentures, as will be seen in the statements of the Company's accounts.

“The railway opened to Woking Common on the 21st of May, and was extended to the Hartley Row station on the 24th of September. The traffic has produced £42,158 2s. 9d., and the expenses thereon amount to £24,788 9s. 7d., being 58½ per cent. on the gross receipts. This sum of £17,369 13s. 2d. the directors do not recommend to be divided among the shareholders at present, but they fully expect, when they meet them in August next, to be enabled to propose a dividend which will be satisfactory.

“The shares for the Portsmouth and Gosport branch having all been taken by the shareholders of the parent line, a bill has been presented to parliament, and which has every prospect of receiving its sanction.

“By order of the Court of Directors,

“WILLIAM REED, Secretary.”

Whereupon it was resolved—That the report of the directors as now read be adopted, and that the same be printed and circulated amongst the proprietors.

Resolved—That the directors be empowered to borrow, at a rate of interest not exceeding 5 per cent. per annum, the sum of £110,000, being the remaining part of the sum of £460,000 authorised by the acts of parliament to be raised by way of loan.

Resolved—That John Easthope, Esq., M.P., Robert Garnett, Esq., John Hibbert, Esq., the three directors who go out by ballot, according to the regulations of the act of parliament, be re-elected.

Resolved—That the best thanks of the proprietors be given to the chairman and directors, for their able management of the affairs of the Company.

LONDON AND SOUTH-WESTERN RAILWAY COMPANY.

At the tenth half-yearly general meeting of the proprietors of this Company, held on Wednesday, the 7th August, 1839, at the offices of the Company, at Nine Elms, Vauxhall.

John Easthope, Esq., M.P., in the chair.

1. The advertisement calling the meeting was read.
2. The minutes of the last half-yearly general meeting, and of the special general meeting held on the 23rd April, 1839, were read.

The following report was then read:—

The directors of this undertaking, at the tenth half-yearly general meeting of its proprietors, report the following statement of the finances of the Company, viz.—

CAPITAL ACCOUNT, TO 30TH JUNE, 1839.

RECEIPTS.

On calls - - - - -	£1,357,291	0	0
Ditto Gosport branch - - - - -	27,410	0	0
Loan on debenture bonds - - - - -	459,900	0	0
Interest - - - - -	3,184	17	7
	<u>£1,847,785</u>	<u>17</u>	<u>7</u>

PAYMENTS.

Expenditure in raising the capital, procuring acts of parliament, &c. - - - - -	£41,467	2	0
Land and compensation, including charge for surveying and valuing - - - - -	267,940	5	3
Conveyancing and law charges - - - - -	14,766	4	0
Cuttings and embankments, bridges, culverts, and stores for the same, stations, temporary buildings, fencing, draining, &c. - - - - -	930,886	19	2
Iron rails, and chairs, and sleepers - - - - -	292,616	1	0
Waggons, implements, and tools and stores - - - - -	57,510	7	9
Engines and carriages - - - - -	103,828	18	1
Surveying and engineering - - - - -	28,529	13	6
Salaries, wages, rent and taxes, printing, stationery, postage, travelling, and other incidental expenses - - - - -	21,463	3	3
Directors' expenses from the commencement of the undertaking - - - - -	4,150	0	0
Debenture bond stamps - - - - -	2,481	13	3
	<u>1,765,640</u>	<u>7</u>	<u>3</u>

	Brought forward	-	£1,236,400	7	3
Gosport branch:—					
	Surveying and engineering	-	£1,395	17	11
	Parliamentary expenses, &c.	-	1,053	10	2
			<u>2,449</u>	<u>8</u>	<u>1</u>
			1,768,089	15	4
			79,696	2	3
	Balance	-	-	-	-
			<u>-£1,847,785</u>	<u>17</u>	<u>7</u>

REVENUE ACCOUNT TO 30TH JUNE, 1839.

RECEIPTS.

On passenger traffic, carriages and horses, goods, parcels, and live stock	-	-	-	-	-
			<u>£77,116</u>	<u>19</u>	<u>7</u>

PAYMENTS.

For maintenance of way	-	-	£10,006	15	9
For locomotive power, viz.—Coke, oil, cotton waste, &c., engine driving, repairs of engines and tenders, men's wages, repairing, and salaries of superintendents	-	19,081	9	7	
Coaching department, viz.—Clerk's salaries, guards and porters' wages, repairs of carriages, trucks, and horse boxes, cleaning and oiling carriages, printing and stationery, rent and taxes, and petty expenses	-	-	13,371	19	0
Police	-	-	2,645	5	1
			<u>45,105</u>	<u>9</u>	<u>5</u>
Interest on debenture bonds	-	-	4,281	4	10
			49,386	14	3
			27,730	5	4
	Balance	-	-	-	-
			<u>£77,116</u>	<u>19</u>	<u>7</u>

TRAFFIC.

Four Weeks ending	Number of Passengers.	Amount.
1839. Jan. 27 - - -	16,211½	£4,176 9 8½
Feb. 24 - - -	16,597	4,259 17 4½
Mar. 24 - - -	19,445½	5,161 11 4½
Apr. 21 - - -	28,512½	6,197 5 3½
May 19 - - -	37,734	7,375 4 7½
June 16 - - -	48,601	8,886 14 3
July 14 - - -	62,627	12,232 16 5½
	<u>229,728½</u>	<u>£48,289 19 1½</u>

Brought forward	-	£48,289	19	1½
In addition to the above, there are the following amounts due to the Company, viz.:-				
For goods carried, but not yet paid for	-	1,813	2	8
For the conveyance of three of her Majesty's mails	-	1,311	12	8
		<hr/>		
		£51,414	14	5½

REPORT.

“In meeting the proprietors on this occasion, the directors are enabled again to present a satisfactory statement of the progress of the undertaking, both as to construction and traffic. As regards the construction, it will be remembered that it was proposed to open the line from Winchfield to Basingstoke in the month of May last. Owing to circumstances which could not be foreseen, this opening was delayed until the 10th June, on which day the line between Winchester and Southampton was also made available to the public, leaving only eighteen miles incomplete. The works on these eighteen miles are proceeding at such a rate as to leave no doubt of their being completed before the 1st May next. Of the very large quantity of cutting on this district (3,200,000 yards) 680,000 yards only remain to be executed. The whole of the rails and other materials necessary for the completion of the line from London to Southampton are contracted for on satisfactory terms, and although the expenses of stations have greatly exceeded the estimate, and the damage occasioned by the operation of the weather on the embankments and slopes have been severe, and have led to a very considerable outlay beyond the anticipation of the directors, they yet fully expect to defray the whole charge of original construction and furnishing for an amount not exceeding that which the present powers of parliament have enabled them to raise. (Cheers.) The sanction of parliament having been obtained for the formation of the line from Bishopstoke to Gosport, the directors have deemed it their duty, in order to effect the earliest possible railway communication with the port of Portsmouth, to take the most active measures for the construction of that line—they have now the satisfaction to state that the works from Bishopstoke to Fareham, a distance of twelve miles, are already contracted for with a very responsible contractor, who gives security for their completion by the 1st May, 1841. The works from Fareham to Gosport are of a very light character, and can be completed within twelve months from the time of their commencement.

“The contract which is concluded relieves the directors from any apprehension of requiring more money for the entire completion of the works and furnishing, than that contemplated by the act of parliament for that purpose. (Cheers.) In respect of the traffic there is equal ground for satisfaction. Previous to the opening the line to Basingstoke, and also from Winchester to Southampton, the receipts presented a steady increase, but since that time the accession of traffic has been great; and fully equal to all previous calculation. At the present time the weekly receipts are nearly three times as much as they were at the last meeting of the proprietors. The traffic on the twelve miles from

Southampton to Winchester has exceeded the expectations of the directors. As respects the conveying of passengers along the eighteen miles between Basingstoke and Winchester, the directors have devoted considerable care to render it both efficient and economical, and the consequence has been that a considerable increase has already taken place in the number of passengers passing on both parts of the railroad now opened.

“The directors feel themselves warranted in coming to the conclusion, that when the inconveniences which are inseparable from a change in the mode of conveyance shall no longer exist, a much greater augmentation of the number of passengers will take place, and, consequently, an increased revenue to the proprietors of the railway. In reference to the income arising from the traffic to the 30th June last, the day up to which, in accordance with the act of incorporation, the accounts to be presented to this meeting are made up, it will be seen that

	£	s.	d.
The gross receipts were - - - - -	77,116	19	7
The cost of maintenance and working the line - - - - -	46,105	9	5
	32,011 10 2		
From this must also be deducted a sum paid for insurance on debenture bonds - - - - -	4,281	4	10
Leaving - - -	£27,730 5 4		

as a clear profit. The directors propose out of this sum to pay a dividend of 15s. per share, which, on the 36,000 shares into which the capital of the Company is divided, will amount to £27,000, and when it is considered that this dividend fairly arises from the traffic of only twenty-three miles, from the 21st May, 1838, to the 23d September, 1838, and of thirty-eight miles from 24th September, 1838, to the 10th June, 1839, and only twenty days produce of the more extended opening to Basingstoke, being from the 10th to the 30th June, 1839, and when it is also considered, that the profit of this partial trade is divided by the total number of shares which constitute the whole capital of the Company, for the construction and furnishing of the entire seventy-seven miles, the proprietors will, it is hoped, receive it as a sure earnest of the ultimate success of the undertaking.” (Loud cheers.)

By order of the court of directors,

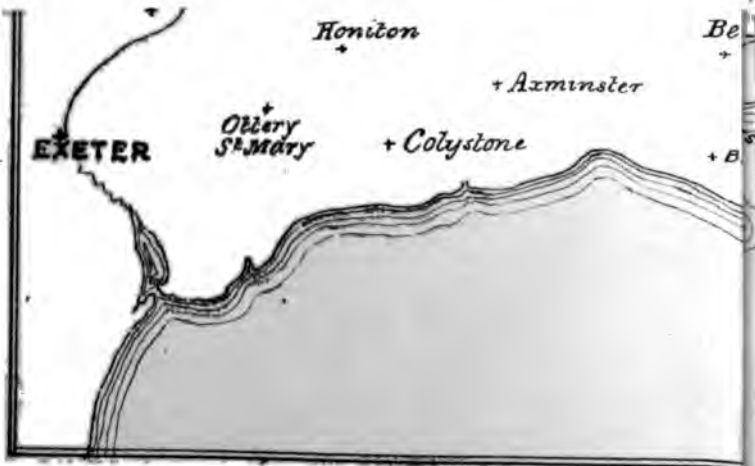
WILLIAM REED, Secretary.

Resolved—That the report be received, and that it be printed and circulated among the proprietors.

Resolved—That a dividend of 15s. per share be declared, and that it be payable on the 21st instant.

Resolved—That the best thanks of this meeting are eminently due, and are hereby given to the chairman and directors, for their very able management of the affairs of the Company.

Southampton to Winchester has exceeded the directors. As respects the conveying of passengers



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SOUTH WESTERN RAILWAY.

collection of documents relating to the South Western the important report presented to the half-yearly 1st, 1837, and which was compiled by Mr. Reed, etary, who distinguished himself so much in this undertaking, as he did subsequently in the and Rouen and Havre Railway Company. The d have always been founded on a liberal and comiation of the capabilities of the railway system, and re given him an eminent place among practical shareholders of the South Western Railway owe him his exertions in promoting the welfare of their

outh Western Railway passed through what may be of its fate, having been placed in peculiar dif- re now forgotten. The original engineer, as seen in was Mr. Giles, who gave an estimate under consequence of which the capital was fixed at 3 result was a want of confidence in Mr. Giles, and by Mr. Locke, who has carried out the undertaking . Giles's plan involved a very long tunnel at Popham, t was found that, by a deviation line, this could be ne necessary to make application to the legislature, ill passed the House of Commons, but on its reaching ls it experienced Lord Shaftesbury's interference. It that the capital of the Company was insufficient, and ee required an additional subscription deed. With r were unprepared, not knowing that it would be re- any more than by the commons.

ndiment the bill would have been thrown out, but for directors and secretary. Time was prayed for, and lty, granted. At that period the shares were £50 id, and the discount was £23. Indeed, shareholders 25, had offered their shares for nothing to any one ne liability off their hands. Sir John Easthope, the fr. Chaplin, now chairman, and Mr. Reed, then he emergency, went down to Manchester, where the s then resided, and a meeting was called. By is their co-operation was secured, and a plan was ed out to issue new shares at £25 discount, so as to al £400,000, such shares being distributed prefer- shareholders, *pro rata*. By these means the deed ented on the appointed day, and the amended bill position.

culty to which allusion is made in the first page of 3 that time the line has been extending, and the ceased; but it will be seen that even in the year i, the original estimate of traffic had been exceeded.

FOLIO, DECEMBER, 1846.

LONDON AND SOUTHAMPTON RAILWAY.

DIRECTORS.

John Easthope, Esq. M.P.	Chairman
Robert Garnett, Esq.	Manchester, Deputy Chairman
William Chaplin, Esq.	- - London
Thomas Cooke, Esq.	- - Manchester
John W. Drew, Esq.	- - Southampton
Vincent Eyre, Esq.	- - London
John L. Eyre, Esq.	- - Ditto
John Hibbert, Esq.	- - Ditto
Ambrose Humphrys, Esq.	- - Ditto
E. Jerningham, Esq.	- - Ditto
John King, Esq.	- - Southampton
Simon M'Gillivray, Esq.	- - London
Robert Shedden, Esq.	- - Tor Abbey
Henry Waymouth, Esq.	- - London
John Wright, Esq.	- - Ditto

ENGINEER—Joseph Locke, Esq.

REPORT OF THE DIRECTORS.

The directors, in this their sixth half-yearly report, have to congratulate the proprietors on the improved state of the Company's affairs and prospects since the special general meeting, which was held on the 8th of May last. The difficulties which had then arisen, and in consequence of which it became necessary to call that meeting, have been surmounted; the arrangements proposed by the directors, and adopted by the proprietors, have been carried into effect; subscriptions for the capital required for the completion of the railway have been obtained, and the amended bill, granting all necessary powers for that purpose, is now an act of parliament. The directors have also the greatest satisfaction in being able to state that the favourable anticipations expressed by them on that occasion are amply justified by the result so far, as well in respect to the progress of the works, as their cost.

It will be in the recollection of the proprietors, that it was promised to open the line as far as Kingston on the 1st of May next. The progress made during the last three months leaves no room for doubt on that point. The Battersea embankment, which on the 15th of April last required 135,000 cubic yards, now requires little more than 40,000 cubic yards to effect its completion, and is proceeding at the rate of from 4 to 5,000 yards per week. With the exception of the Hogmill valley embankment, where something less than 20,000 yards are required, the rest of the line to Kingston is formed, and the ballasting is being proceeded with.

On the opening of the line to Kingston, a considerable traffic in passengers will at once arise, from the proximity of the line to Hampton

Court, and other favourite places of resort, as well as from the more regular demands of the country, but the directors have felt that if it were possible to open the line at the same time to some point so far distant from London as to furnish a sufficient inducement to the passengers travelling to and from Guildford, Portsmouth, Southampton, and other parts of Surrey and Hampshire, to join the railway, instead of coming through by stage-coaches, a more important, and consequently more profitable, result would be obtained. This the directors confidently believe they will now be able to effect, and that on the 1st of May next the line will be opened to Woking Common, the nearest point to Guildford, and twenty-three miles distant from London.* The grounds for that belief are, that the experience of the past has proved to the directors the practicability of accomplishing the work that now remains to be done, and that it is in the hands of a very able contractor, who has given security for its completion within that time. As to the general progress of the works, the directors beg to refer to the following report of Mr. Locke, the engineer of the Company:—

MR. LOCKE'S REPORT.

TO THE DIRECTORS OF THE LONDON AND SOUTHAMPTON RAILWAY.

Gentlemen—Since I last had the honour to report to you the state of the works on this railway, several changes in the mode of management have been made, and several items of expense, which then rested on opinion, have been satisfactorily set at rest. In the then state of the works I felt it almost impossible to say precisely what sum would be required to complete them; and I could only approximate by attaching prices founded on experience elsewhere to quantities that were assumed to be required to finish the work. Since that period a contract has been entered into with Mr. Brassey, a very able and responsible contractor, to execute all the remaining works from Wandsworth to the River Wey Navigation, a distance of about fifteen miles, and I am happy in being able to state that its amount will not exceed my anticipations.

Beyond the River Wey no changes in the persons carrying on the works have been made, but they are proceeding on a new footing,—each contractor, for a consideration in price, finding his own materials. I cannot precisely state what will be the absolute cost of these works as compared with my former estimate; because the form of the contract unavoidably remains somewhat different to that which I should under other circumstances have adopted; but here again I have reason to believe that my former estimate will not be exceeded.

The admeasurements for the works on the deviation line between Basingstoke and Winchester are now nearly ready, and I expect, in a few days, to enable you to make a contract for their entire completion upon terms within my former estimate.

* In order the more satisfactorily to exhibit to the proprietors the nature of the works in progress, and the actual state to which they are advanced, a section of the line from London to Basingstoke has been prepared with minute accuracy, and is attached to this report: those parts of the different cuttings and embankments completed up to the last monthly return on the 5th of August being colored red.—[This we have not republished.]

The remainder of the works from Winchester to Southampton, you are aware, is under contract to Mr. M'Intosh. The form of this contract is not such as I would have adopted, but, from the well known responsibility of the contractor, there is every reason to expect that the works will be satisfactorily completed during the next summer.

On that part of the line from London to Woking Common, a distance of twenty-three miles, the necessary arrangements have been made, and contracts entered into, for enabling you to open it for the purposes of general trade by the 1st of May next; but although there is every reason to expect this to be done, I am desirous of stating that, in the construction of such works, delays and accidents may arise to render it expedient to defer the opening until the 1st of June, when the solidity and permanency of the works will be more fully established.

This partial opening will be of advantage in enabling you to prepare for the more extensive operations of working a long line; at the same time it will yield a return during the progress of the other works; and this principle will be further developed in the spring of 1839, when the line to Basingstoke, forty-six miles from London, will be completed.

All the other works will be finished in the spring of 1840.

I remain, gentlemen,

Your obedient servant,

London, 21st of August, 1837.

JOSEPH LOCKE.

A careful review of the estimate for the comparatively small quantity of land not absolutely agreed for, leads to no apprehension of any excess of outlay in that respect, beyond the sum stated in the last report.

The circumstances of the times having been deemed favourable for the purchase of iron rails, the directors have purchased largely, and as the price is much below that which was contemplated in the late estimate, they have thought it right still further to increase the weight of the rails, and thus acquire an additional degree of stability in the railroad, as well as reduce the cost of maintenance.

Contracts have also been entered into for carriages and locomotive engines, which will be delivered in time for the opening in May next.

The amount of traffic on the line of this railway, and consequently of revenue to its proprietors, is a matter of so much importance, that the directors have felt it to be their duty to enter into minute inquiries on the subject, and to frame a special report thereon, which they beg to submit to the investigation of the proprietors, in full confidence that the more closely its contents are scrutinised the more justly will the advantages which the undertaking promises to the proprietors be appreciated.

Referring, therefore, for particulars to the summary in page 25 of this report, the directors will only here quote from that summary the fact, that a very moderate estimate of the traffic to which they have a right to look on the completion of the railway gives a net revenue of nearly 15 per cent.* on the estimated cost of £1,700,000.

* Estimated cost of the railway	-	-	-	-	-	£1,700,000	0	0
The net annual income, as shown in page 25, is	-	-	-	-	-	£247,865	18	1
And deducting interest to be paid on £300,000 to be borrowed at 5 per cent.	-	-	-	-	-	15,000	0	0
There will remain for dividend	-	-	-	-	-	£232,865	18	1
Being £16 12s. 8d. per cent. on £1,400,000, the real capital; or £12 18s. 9d.								

It will also be seen, that there are many sources of probable revenue which are not included in the estimate, but some of which are enumerated, so that every proprietor may judge for himself how far the result is likely to exceed the present estimate.

The directors are far from wishing to hold out to the proprietors any expectations beyond those confidently entertained by themselves as to these estimates, and they feel it their duty to lay the grounds of those expectations fully and clearly before the proprietors, in order that the value of the undertaking may be understood by those who are most deeply interested in its success, the directors, for their own part, being fully impressed with the conviction that, in point of permanent advantage to its proprietors, this railroad will ultimately be inferior to none in the kingdom.

The proprietors are of course aware that, of the original shares, there remains only to be called one instalment of £5 per share, and on the new shares the full amount of £25 each.

It is the intention of the directors to proceed in the execution of the whole line with the greatest practicable celerity, which will lead to the necessity of making the remaining calls as early as possible: it has, therefore, been considered that it might be convenient to the proprietors to know at once the days on which these different calls shall become payable, in order to facilitate any arrangements that may be requisite for making the same, and a list of these calls, with the dates of their becoming payable, is accordingly stated.

The remaining call on the old capital will be due and payable on the 12th of November.

The first call of £5 per share on the new shares

will be due and payable on the	-	-	-	-	20th January, 1838.
2nd call of £5	-	-	-	-	20th April, 1838.
3rd call of £5	-	-	-	-	20th July, 1838.
4th call of £5	-	-	-	-	20th October, 1838.
5th call of £5	-	-	-	-	21st January, 1839.

It being also considered that it might be convenient to many proprietors to pay up these calls at once, receiving the discounts on such anticipated payments, which is authorised by the act of parliament, the directors accordingly give notice that, on the payment of any or all such calls before they become due, interest at the rate of £5 per cent. per annum will be allowed.

By order of the directors,

WILLIAM REED, Secretary.

AN ACCOUNT OF RECEIPTS AND PAYMENTS TO THE 30TH JUNE, 1837.

RECEIPTS.	
On calls	- - - - - £748,453 0 0
Interest	- - - - - 3,365 12 11
	<hr/>
	£751,818 12 11
	<hr/>

per cent. on £1,800,000, the nominal capital. Say £6 9s. 4½d. on each original share, and also £6 9s. 4½d. on each new share of £25;—or £12 18s. 9d. per cent. on original shares, and £25 17s. 6d. on new shares.

PAYMENTS.

Expended in raising the capital, procuring the act of parliament, &c.	£39,793	6	6
Land and compensation, including charges for surveying and valuing	303,870	14	6
Conveyancing and law charges	-	4,278	7 0
Cuttings and embankments, bridges, culverts, and stores for the same, fencing, draining, &c.	-	299,264	13 10
Iron rails, chairs, and sleepers	-	86,185	18 2
Engines, waggons, implements, and tools and stores for the same	-	64,366	10 9
Temporary buildings	-	4,313	12 9
Surveying and engineering	-	14,132	3 11
Salaries, wages, rent and taxes, printing and stationery, postage, travelling, and all other incidental expenses	-	10,862	5 8
Directors' expenses and fines, from the commencement of the undertaking	-	2,150	0 0
			<u>£729,217 13 0</u>
Cash and exchequer bills in hand	-	-	16,600 19 10
Funded property, in 3 per cent. consols, invested as required by the 14th clause of the act of parliament	-	-	6,000 0 0
			<u>£751,818 12 11</u>

REPORT ON THE TRAFFIC.

The directors being fully impressed with the importance of causing the merits of the undertaking to be understood, have taken considerable pains to ascertain what are the sources and probable amount of the revenue which may fairly be expected when the railway shall be completed; and they have been the more solicitous on this point, because of the somewhat general impression that the traffic will not compensate the shareholders, which impression has, doubtless, had a considerable effect in preventing this railroad from holding that place in the public estimation to which, as well from its own intrinsic merits as by comparison with others, it is justly entitled. The dividend ultimately receivable by the shareholder will be as is the cost of construction and maintenance to the traffic. Having therefore obtained and placed before the proprietors the best information as to the cost, the directors now proceed to do the same as regards the traffic. And they begin by reciting the statement made in the original prospectus, which was fully borne out by evidence before the committees of both houses of parliament previous to the obtainment of the act of incorporation.

ORIGINAL STATEMENT OF TRAFFIC AS PUBLISHED IN THE PROSPECTUS,
AND PROVED BEFORE PARLIAMENT.

PRESENT TRAFFIC, ESTIMATED AT RAILWAY PRICES.

	£	s.	d.	£	s.	d.
Coach passengers ¹ - - - -	118,498	18	0			
Posting ² - - - -	7,082	8	0			
Coach parcels - - - -	12,711	16	8			
Waggon traffic - - - -	29,768	6	0			
Cattle traffic ³ - - - -	27,155	0	0			
	<u>£195,216</u>	<u>8</u>	<u>8</u>			
Cost of maintenance of way and locomotive power - - - -	87,798	11	5			
				<u>107,417</u>	<u>17</u>	<u>3</u>

PROSPECTIVE TRAFFIC, ADDITIONAL TO THE ACTUAL
TRAFFIC.

	£	s.	d.			
Torbay fishery, upon the present amount of fish caught - - -	23,333	6	8			
100 per cent. increase on passengers	118,498	18	0			
Increase on country-killed meat -	4,666	13	4			
Increase on heavy goods ⁴ - - -	5,569	4	0			
	<u>£152,068</u>	<u>2</u>	<u>0</u>			
Cost of maintenance of way and locomotive power on increased trade ⁵ - - - -	52,000	0	0			
				<u>100,068</u>	<u>2</u>	<u>0</u>
Total or supposed profit - - - -				<u>£207,485</u>	<u>19</u>	<u>3</u>

The original prospectus goes on to state the fact, that "nothing is assumed in the above calculations for an increase of passengers by private carriages, post-chaises, or coach parcels, nor is any revenue assumed for the carriage of cargoes which may be discharged in the Southampton water; for passengers travelling in gigs, an increase of the Torbay fishery, or for the transport of agricultural, dairy, or garden produce, timber, building materials, chalk, and other manures."⁶ To which it may be added, that neither is anything assumed for the conveyance of coals, or any goods now passing by canal. The coach

¹ Traffic estimated, £236,997; receipts, 1844-5, £261,725.—EDIT.

² Receipts, 1844-5.—Carriages, 3,511, £5,256; horses, 5,570, £4,590.—Total, £9,847.—EDIT.

³ Cattle, 2,763, £1,696; sheep, 53,441, £2,267; pigs, 3,089, £299. - Total, £4,052.

⁴ No means of ascertaining each item; estimate of goods traffic, £63,337; receipts, 1844-5, 93,425 tons, £56,080; the fish has most probably not realized anything like the estimate.

⁵ Estimated receipts, £347,284; receipts, 1844-5, £360,420.—EDIT.

⁶ See our November number.

passengers were estimated on the average of nine passengers to a stage coach, and five to a mail coach, on 107 daily coaches which were proved by official persons from the stamp-office to be running from and to the following places, viz. :—

London to Alton.	London to Hersham Green.
„ Basingstoke.	„ Kingston.
„ Blackwater.	„ Portsmouth.
„ Bridgewater.	„ Salisbury.
„ Chertsey.	„ Southampton.
„ Devonport.	„ Wandsworth.
„ Esher.	„ Weymouth.
„ Exeter.	„ Weybridge.
„ Godalming.	„ Wimbledon.
„ Gosport.	„ Taunton.
„ Guildford.	„ Chichester.
„ Hampton.	„ Newbury.
Also from	
Southampton to Reading.	Southampton to Newbury.
„ Oxford.	„ Winchester.*

The coach parcels were estimated very low, and the waggon traffic was put down at a sum actually proved by the waggon owners on the line.

The evidence thus recited was satisfactory to the original shareholders, and to parliament; but in consequence of the impression already referred to as to the supposed deficiency of traffic, and which impression appears to have been in part produced by interested misrepresentations, as actively as malignantly circulated, and in part by the very name of the railway, leading careless observers to look only to its extreme terminus at Southampton, without considering the immense traffic to the south western parts of England, it has therefore, been thought proper to obtain the latest and best possible information on the subject of traffic, and to review the whole question of probable revenue.

For this purpose, the directors acceded to a request made to them by some of the influential shareholders at Manchester, to employ Mr. Pare, of Birmingham, a gentleman unknown to the directors, but who was represented to them as having had considerable experience in estimating the traffic on lines of railway in the north of England. The directors have also availed themselves of the knowledge possessed by Mr. Lacy, of Manchester, the extensive mail-coach contractor, who is well acquainted with the country to be affected by the Southampton Railway; and the proprietors will also have the benefit of Mr. Chaplin's statement of the traffic, founded upon actual observation and inspection of the books of the various extensive concerns in the same line. Mr. Chaplin's experience in all matters relating to the conveyance of

* It will be observed, that nothing was originally or is now taken for coaches travelling to Bath or Bristol.

passengers, is too well known to render any recommendation of his opinion on that subject necessary.

The directors proceed to place before the proprietors each of these statements, together with observations thereon.

MR. LACY'S STATEMENT.

Mr. Lacy's statement is confined to stage-coach passengers, travelling from London to Southampton, Portsmouth, Gosport, Salisbury, Weymouth, Basingstoke, Alton, Chertsey, Guildford, Godalming, Kingston, Hampton, and Hampton-wick, and he makes the existing traffic, at railway prices, equal to a gross revenue of - - - £102,784

There is, however, omitted from this statement the proceeds of coaches running from Southampton to Reading, Newbury, Oxford, and Winchester, which will produce - - - - - £3,896	} 15,393
And those running from London to Esher, Hersham, Weybridge, and Wimbledon, the existing traffic of which will produce - - - 11,497	

£118,177

It will be observed, that this sum is very nearly the same as that assumed in the original prospectus, the former being £118,177; the latter, £118,498 18s. Mr. Lacy has excluded from his estimate all the passengers travelling by the Exeter, Taunton, Bridgewater, and Devonport coaches. The propriety of doing this will be considered hereafter; but even without the traffic by these coaches, the account of Mr. Lacy is sufficiently confirmatory of the parliamentary estimate.

MR. PARE'S STATEMENT.

COPY OF A LETTER FROM MR. PARE TO MR. REED.

Birmingham, June 27th, 1837.

Sir—I send herewith the estimate of revenue of the London and Southampton Railway, which I have made up after the most careful and patient investigation.

Had the object been to have swelled the income to the largest possible amount, I could easily have made it much larger; for I have not estimated anything for the carriage of grain, hay, coal, brick, lime, timber, manure, &c., now carried by land or water. Nor have I estimated anything for market produce; the carriage of fish from Torbay, or the carriage of the mails; nor, as you will perceive, has anything been calculated for an increase in general merchandise, though there can be no doubt this will take place. My endeavour has been to keep within the limits to which the estimate might have been carried.

Should any further particulars be required, I shall be happy to furnish them.

I am, sir, your obedient servant,

(Signed) WILLIAM PARE.

To W. Reed, Esq.

DATA UPON WHICH THE ESTIMATE OF REVENUE IS FOUNDED.
JUNE, 1837.

The whole is the result of observations made in the months of April and May, 1837, at nine different stations on the Southampton and Portsmouth roads, and on the Basingstoke canal; the inspectors remaining a fortnight at each station.

The coach table has been made up from the Stamp-office list, as published in December, 1836, and which is, I believe, rather under an average for the year. The Exeter, Devonport, and Taunton coaches are omitted, upon the assumption that the passengers will go by the Great Western, and Bristol and Exeter Railways. The Wandsworth coaches and omnibuses are omitted, because it is doubtful (considering the terminus of the railway, and the way in which it passes Wandsworth) whether, for so short a distance, the railway will offer equal advantages with the present conveyances.

It will be seen that only three passengers per journey have been estimated by the coaches, &c., between London and Hampton, although they are licensed to carry twelve. This very low average has been taken upon the supposition that many passengers carried by the present conveyances are for intermediate distances, on a line of road not traversed by the railway. With the exception just stated, the number of passengers by coach, per journey, are estimated as follows, namely, nine to a four-horse coach, six to a two-horse coach, and five to a mail. The result of nearly 2,000 observations of the coaches on this line of road gives a somewhat higher average.

The number of passengers travelling with post horses were counted, and upon the number so obtained (which gives an average of three persons to each pair of horses) the calculation is founded. One half of the number, however, passing through Basingstoke and Popham for the west, have been thrown out of the calculation, upon the assumption that they were destined for Exeter, or places west of Exeter, and would therefore go by the Great Western and Bristol and Exeter Railways, when completed.

One half only of the persons travelling in cars, flys, gigs, and private carriages have been estimated to travel by the railway.

One half only of the persons observed travelling in stage vans, waggons, and spring and market carts have been estimated to travel by railway. With respect to those travelling by stage vans and waggons, it may be safely stated, that not one half of them could be observed.

In estimating the amount of revenue from coach parcels, I have taken, as a general guide, the estimates of the London and Birmingham, and other principal railways, which were founded on the testimony of coach proprietors, and have considered the relative importance of the towns upon the London and Southampton Railway line, as compared with towns on other lines, and the probable wants of the population in this respect. Upon a careful review of this item, I believe it to be rather under than over estimated.

The weight of merchandise by stage vans and waggons has been estimated upon the assumption, that each horse employed draws upon an

average fifteen cwt. Vans and waggons travelling between London and places west of Salisbury have not been estimated.

During a fortnight's observation upon the Basingstoke Canal, there passed 371 tons of the lighter description of general merchandise, and 859 tons of coal, timber, grain, stone, gravel, &c. The 371 tons of general merchandise only has been estimated to go by railway.

Between London and Southampton there are six regular trading smacks and schooners, each of about 100 tons register. Upon an average there are two trips per week, and for the purposes of this estimate, it has been assumed that each carries an average weight of 50 tons, and that one half of this, or twenty-five tons per week, would be absorbed by the railway.

The cattle and sheep counted on the road during the fortnight's observation in April and May have, in this estimate, been taken to be for the average of the year. There can be no doubt, however, that the number observed is greatly under the average number; the time of the observation being unfavourable for this species of traffic.

The rates to be charged by the railway have been assumed to be as follows:—Passengers, 2d. per head, per mile. Goods of the description now taken by land, 4d. per ton, and those taken by water, 3d. per ton, per mile. Beasts, 3d. per head; and sheep, calves, and pigs, 1½d. per head, per mile.

The mode I have adopted of adding 100 per cent. to the present number of passengers travelling by coach, post, gig, &c., in order to arrive at the probable number which will travel by the railway, is the usual method adopted in estimates of this nature. I am not aware, however, of any precedent, in fact, for this course. The increase in the number of passengers upon those railways which are in active operation has, I believe, always been stated in comparison with the number who previously travelled by coach alone, throwing out of the calculation passengers by all other modes of conveyance: and this I think to be the fairest mode. Applying this principle, then, to the line under consideration, and assuming that the number of passengers will be treble the number now travelling by coach (and this, I believe, is less than the minimum of increase on any railway at present in operation), the net annual revenue would be £230,594 5s. 4d., being 13½ per cent. upon the capital sum of £1,700,000.

(Signed)

WILLIAM PARE.

COACH TRAFFIC.

Places between which Coaches are Licensed.	Number of Coaches (i. e. Vehicles) travelling.	Number of Weekly Journeys performed.	Average Number of Passengers per Journey.	Average Number of Passengers weekly.	Miles by London and Southampton Railway.	Aggregate Number of Miles travelled weekly by Railway.
London and Alton - - - -	1	6	9	54	31	1,674
„ Basingstoke - - - -	2	12	9	108	46	4,968
„ Blackwater - - - -	1	12	6	72	31	2,232
„ Chertsey - - - -	1	12	6	306	20	6,120
„ Ditto - - - -	2	26	9			
„ Chichester - - - -	3	36	9	324	23	7,456
„ Chobham - - - -	1	12	6	72	23	1,652
„ Esher - - - -	2	24	6	144	12	1,728
„ Godalming - - - -	1	12	9	108	23	2,484
„ Gosport - - - -	2	12	9	108	76	8,208
„ Guildford - - - -	2	24	9	216	23	4,968
„ Hampton - - - -	11	174	3	522	12	6,264
„ Hersham Green - - - -	1	12	6	72	15	1,080
„ Kingston - - - -	1	16	9	144	10	1,440
„ Portsmouth - - - -	17	112	9	1,078	76	81,928
„ Ditto, mail - - - -	2	14	5			
„ Salisbury - - - -	4	24	9	216	55	11,880
„ Southampton - - - -	12	78	9	772	76	58,672
„ Ditto, mail - - - -	2	14	5			
„ Weybridge - - - -	2	24	9	216	16	3,456
„ Weymouth - - - -	2	12	9	108	55	5,940
„ Wimbledon - - - -	1	28	9	252	6	1,512
Southampton and Bath - - - -	2	12	6	72	30	2,160
„ „ Cheltenham - - - -	2	12	9	108	30	3,240
„ „ Gloucester - - - -	1	6	6	36	30	1,080
„ „ Reading - - - -	1	6	6	36	30	1,080
„ „ Newbury - - - -	1	6	6	36	21	756
„ „ Oxford - - - -	2	9	12	108	21	2,268
„ „ Alresford - - - -	1	9	12	108	12	1,296
„ „ Winchester - - - -	1	6	12	72	12	864
Total miles per week - - - -						226,406

226,406 miles per week is equal to 11,773,112 miles per year, which, at 2d. per mile, is £98,109 5s. 4d.

(Signed)

WILLIAM PARR.

Birmingham, June, 1837.

ESTIMATE OF REVENUE.¹PASSENGERS.²

	£	s	d.	£	s	d.
By coach - - 11,773,112=154,909½	98,109	5	4			
By post - - 1,359,748= 17,891½	11,331	4	8			
By car, fly, gig, } &c., being half } those observed }	1,173,029= 15,434½	9,775	4	10		
By van, wag- } gon, & spring- } cart, being half } those observed }	857,831= 11,287½	7,148	11	10		
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	15,163,720=199,522½	126,364	6	8		
Add 100 per } cent. for in- } crease - - }	15,163,720=199,522½	126,364	6	8		
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Coach parcels - - - - -	30,327,440=399,045	252,728	13	4		
		16,688	2	0		
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total revenue from passengers and small parcels - -		269,416	15	4		
		GOODS AND LIVE STOCK.				
By van & waggon ³ 2,507,882= 32,998½	41,798	0	2			
By canal and sea ⁴ 641,316= 8,438½	8,016	9	0			
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Live stock - - - - -	3,149,198= 41,436½	8,309	14	2		
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total revenue from goods and live stock - - - - -		58,124	3	4		
		Gross annual revenue - - - - - £327,640 18 8				
Deduct for expenses of annual repairs, locomotive power, management, &c., &c., as follows:—						
From passenger and small parcel revenue, 33½ per cent - - - - -		89,705	11	9		
From goods and cattle revenue, 60 per cent - - - - -		34,874	10	0		
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
		269,416	15	4		
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Net annual revenue, being 12 per cent. nearly } on the capital sum of £1,700,000 - - }		£202,860	1	9		
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>

(Signed)

WILLIAM PARR.

Birmingham, June, 1837.

¹ This table shows the number of passengers carried one mile annually, and the number to which this is equal to of passengers carried the whole length of the railway.

² Rate per mile, 2d.

³ Rate per mile, 4d.

⁴ Rate per mile, 3d.

Mr. Pare's account evinces considerable ability. There are, however, some items which appear to be not quite correct. For instance, it may be doubted whether the coaches from Southampton to Bath will use the railroad at all, until a line is formed to Salisbury; on the other hand, the coaches going from Southampton to Oxford and Newbury will use the Southampton Railway to Basingstoke, being thirty miles instead of twenty-one. The main point, however, which deserves consideration, is the correctness, or the contrary, of the principle adopted both by Mr. Lacy and Mr. Pare, of excluding, as a means of revenue, from the Southampton line, all the passenger-traffic by the Exeter, Devonport, and Bridgewater coaches. These coaches at present go through Basingstoke, which is on the line of the Southampton Railway, and thence to Salisbury; and it is evident that many of the passengers conveyed by them, go to and from places no further distant from London than the Southampton line extends in a westerly direction. It is a curious fact, that not a single coach is licensed to go to any town west of Salisbury and east of Exeter, from which it necessarily follows that all coach passengers to and from towns situated between these two cities are conveyed by the Exeter, Bridgewater, and Devonport coaches. The principle assumed by both Mr. Lacy and Mr. Pare is, that when the Great Western, the Bristol and Exeter, and the Southampton lines are completed, all persons who now travel by the Exeter, Bridgewater, and Devonport coaches, will go by the former two of these lines; but the right principle seems to be, that passengers going from or to the district included by the three lines, will seek to join some one of these railways at that point which will enable them to perform the journey in the least time and at the least expense. A very little reflection must lead to the conclusion that this latter is the right principle, and the operation of that principle will be to preserve to the Southampton Railway, more than one-half of the passenger traffic by the Exeter, Devonport, and Bridgewater coaches. That this is not assuming too much, is proved by the following statements, taken from the books of the proprietors of the Exeter mail *via* Dorchester, viz., of 169 passengers booked in the twenty-eight days preceding the 24th June last, 108 were going to and from places between London and Dorchester, all of whom would use the Southampton Railway.

From similar data, Mr. Chaplin furnishes the following statement as to four other coaches, during the space of twenty-eight days:—

Name of Coach.	Passengers who would use the Southampton line.			Passengers who would use the Great Western and Bristol and Exeter lines.		
	Inside	Outside.	Parcels.	Inside.	Outside.	Parcels.
Exeter Herald - - -	34	180	482	42	119	411
Exeter mail <i>via</i> Yeovil -	48	94	409	27	22	224
Devonport mail - - -	17	38	182	82	66	1,070
Exeter coach <i>via</i> Yeovil	111	380	1,064	31	174	506
	210	692	2,137	182	381	2,211
	902			563		

It is evident, therefore, from these figures, that one-half the passenger-traffic by the Exeter, Devonport, and Bridgewater coaches, will still continue on the Southampton Railway, even after the Great Western, and Bristol and Exeter lines shall be finished, and that Mr. Chaplin in stating this, which he does in the following account, has not assumed so much as existing facts would warrant.

It will be observed that the foregoing statements, as well indeed as most or all other estimates of the traffic on railways which have been presented either to parliament or the public, have been founded on an assumption of a certain number of passengers to each coach. The following statement, with which Mr. Chaplin has favoured the Directors, possesses the most desirable quality of being founded on absolute fact, the number of passengers and parcels having been ascertained by actual observation, or by an inspection of the books of the coach proprietors.

A STATEMENT OF THE NUMBER OF PASSENGERS AND PARCELS CARRIED PER JOURNEY DURING THE MONTHS OF JANUARY, FEBRUARY, JULY, AND AUGUST, 1836. BY MR. CHAPLIN.

No.	Coaches.	Journey per Week.	Average Passengers Inside & Out.	Number of Passengers per Week.	Number of Miles by Railway.	Aggregate Number of Miles travelled weekly by Railway.
1	Alton - - - -	6	11	66	31	2,046
2	Basingstoke - - -	12	10	120	46	5,520
2	Blackwater - - -	12	8	96	31	2,976
2	Esher - - - -	24	8	192	12	2,304
2	Hersham - - - -	12	8	96	15	1,440
1	Bridgewater - - -	6	10	60	46	1,380
4	Chertsey - - - -	31	8	248	20	14,960
2	Devonport (mails) -	14	5	70	56	122,512
4	Exeter (mails) - -	28	5	140	56	
10	Exeter (coaches) -	66	9	594	56	
2	Godalming - - - -	12	9	108	23	2,484
2	Gosport - - - -	12	8	96	77	7,392
4	Guildford - - - -	24	10	240	23	5,520
18	Hampton - - - -	126	9	1,134	12	13,608
4	Kingston - - - -	30	11	330	10	3,300
10	Portsmouth (day) -	60	11	660	77	50,820
2	Ditto (night) - -	14	11	154	77	11,858
2	Ditto (mail) - -	14	5	70	77	5,390
2	Ditto (van) - - -	12	11	132	77	10,164
4	Salisbury - - - -	24	9	216	56	12,096
14	Southampton - - -	90	11	920	77	76,230
2	Ditto (mail) - -	14	5	70	77	5,390
18	Wandsworth - - -	268	9	2,412	4	14,824
2	Weymouth - - - -	12	9	108	77	8,316
2	Weybridge - - - -	12	8	96	16½	1,584
4	Wimbledon - - - -	28	8	224	6	1,344
1	Little Hampton - -	6	9	54	23	1,242
2	Monshill - - - -	12	8	96	23	2,208
3	Chichester - - - -	18	10	180	23	4,140
2	Chobham - - - -	12	6	72	23	1,656
2	Cheltenham - - - -	12	9	108	30	3,240
2	Gloucester - - - -	14	5	70	30	2,100
1	Reading - - - -	6	6	36	30	1,080
1	Newbury - - - -	6	6	36	30	1,080
2	Oxford - - - -	12	9	108	30	3,240
4	Winchester - - - -	24	8	192	12	2,304
142						285,748

¹ Only half the number taken into calculation.

A STATEMENT, &c.—CONTINUED.

No.	Coaches.	Number of Parcels each Journey.	Annual Number of Parcels.	Charge per Parcel.	Annual Amount of Parcels.
				<i>s. d.</i>	<i>£ s. d.</i>
1	Alton - - - -	8	2,496	0 8	83 4 0
2	Basingstoke - -	12	7,488	1 0	374 8 0
2	Blackwater - -	4	2,496	0 8	83 4 0
2	Esher - - - -	4	4,092	0 4	83 4 0
2	Hersham - - - -	2	1,248	0 4	20 16 0
1	Bridgewater - -	25	13,900	0 10	162 0 0
4	Chertsey - - - -	4	16,448	0 6	161 4 0
2	Devonport (mails) -	} 25	170,200	1 0	3,510 0 0
4	Exeter (mails) -				
10	Exeter (coaches) -				
2	Godalming - - -	5	3,120	0 6	78 0 0
2	Gosport - - - -	15	9,360	1 0	468 0 0
4	Guildford - - -	9	11,232	0 6	280 16 0
18	Hampton - - - -	2	13,104	0 4	218 8 0
4	Kingston - - - -	4	6,240	0 4	104 0 0
10	Portsmouth (day) -	} 15	78,000	1 0	3,900 0 0
2	Ditto (night) -				
2	Ditto (mail) -				
2	Ditto (van) -				
4	Salisbury - - - -	15	18,720	1 0	936 0 0
14	Southampton - -	} 12	64,896	1 6	4,867 4 0
2	Ditto (mail) -				
18	Wandsworth - - -	2	113,936	0 4	232 5 4
2	Weymouth - - - -	14	8,736	1 0	436 16 0
2	Weybridge - - - -	4	2,496	0 6	62 8 0
4	Wimbledon - - -	2	2,912	0 4	48 10 2
1	Little Hampton -	10	3,120	0 6	78 0 0
2	Moushill - - - -	4	2,496	0 6	62 8 0
3	Chichester - - -	10	9,360	0 6	234 0 0
2	Chobham - - - -	3	1,872	0 6	46 16 0
2	Cheltenham - - -	5	3,120	0 6	78 0 0
2	Gloucester - - -	6	4,368	0 6	109 4 0
1	Reading - - - -	3	936	0 6	23 8 0
1	Newbury - - - -	4	1,248	0 6	31 4 0
2	Oxford - - - -	4	2,496	0 6	62 8 0
4	Winchester - - -	2	2,496	0 4	41 12 0
142					16,877 17 6
					3,375 11 6
					20,253 9 0

Add 20 per cent. for amount of carriage }
for parcels carried by weight.

¹ Only half this number taken into calculation.

The result of the statement of Mr. Chaplin is, that the number of miles now travelled weekly is 285,748, or annually 14,858,896 ; which, at 2d. per mile, is	-	-	-	-	-	£123,824	2	8	
The carriage of parcels	-	-	-	-	-	20,253	9	0	
Total of the existing coach traffic estimated							} £144,077	11	8
at railway prices									

Accompanying the foregoing statement is the following letter of Mr. Chaplin to the chairman of the directors of the London and Southampton Railway Company :—

Lad-lane, 4th August, 1837.

My dear Sir,—On handing you a statement of the stage-coach traffic in the district through which the Southampton Railway passes, I cannot refrain from expressing my opinion, that the great difference between the marketable value of its shares, as compared with those of the Liverpool and Manchester, or other railways leading to those towns, is mainly to be ascribed to the importance which is attached to their being places having each of them a large population, and to their great manufacturing and commercial character, and it has been supposed that on this it necessarily follows that a far greater number of passengers pass between London and those towns, than between London and the towns situated on the Hampshire coast. That this is not so, will, however, be at once apparent from the fact, that during the last seven years the number of coaches running direct from London to Portsmouth and Southampton have exceeded the number of those running direct from London to Manchester and Liverpool, in the proportion of seventeen to thirteen.

This may arise from the circumstance of Liverpool being a port into which all foreign and colonial produce is imported, and from Manchester being a place where goods are manufactured, and can, therefore, be obtained without recourse to a distant market ; but whatever the cause may be, the fact is what I state.

On looking over the report of the directors of the Liverpool and Manchester Railway, dated 26th May, 1826, it is shown that the coach traffic was computed upon twenty coaches, running forty journeys per day, between those two towns, and the extreme amount of income to the railway from this traffic was estimated at £20,000 per annum ; whereas the average receipt from the coach department on this railway for the first five years and a half has been £104,225 18s. 5½d. per annum. This sum, divided by thirty, the number of miles, gives £3,474 3s. per mile. To produce this sum the number of passengers between the two towns have been nearly quadrupled. Now, if the number of passengers on the Southampton line, as shown by the statement I now send you, is only doubled, and the parcels taken at what they now are, it will make a revenue from the coach department of £267,901 14s. 4d., which, divided by seventy-seven miles, gives a revenue per mile of £3,479 4s. 8d. Surely this comparison ought to be satisfactory, more especially as we shall have the advantage of the experience derived from the more early railroads. The Liverpool and Manchester Railway has stood the test of several years' experience ; the knowledge now existing on the general subject of railways is mainly

to be attributed to this circumstance, but more to the liberal and candid conduct of the directors in making the results of its operations publicly known.

I am, my dear Sir, yours faithfully,
(Signed) WILLIAM CHAPLIN.

To the chairman of the directors of the
London and Southampton Railway.

Of the preceding statements, the directors prefer that of Mr. Chaplin, not because it is the most flattering as regards the interest of the proprietors, but because it is founded upon positively existing data—upon facts, and not upon assumption; and because the experience of Mr. Chaplin in such matters entitles his opinions to great respect. It only remains to be said that Mr. Chaplin's account of the number of parcels carried is not a matter of estimate, but of fact.

Some estimate of the importance of Southampton may be made from the fact, that sixty-six coaches arrive at and leave that town every day, besides steam-packets to London, to Havre, Portsmouth, the Isle of Wight, Guernsey, Jersey, and various ports on the south-western coast of England.

Having thus more than substantiated the original estimate of traffic, as regards stage-coach passengers and coach-parcels, the other, and less important items, remain to be inquired into. The posting is put down at so small a sum, that it scarcely requires any comment. When it is once seen that the estimate contemplates the carrying of all those persons who now travel by post-horses, together with the carriages of some of them, for less than £20 per day, a length of seventy-seven miles, on a road where a very large number of post-horses are kept, it must appear, as it really is, much understated. The original estimate contemplates a revenue of £7,082 8s., from this source. Mr. Pare makes it £11,331 4s. 8d.

As regards the waggon traffic, the original estimate contemplates a revenue of £29,768 6s. Mr. Pare makes it £49,814 3s. 2d. This may be partly accounted for, from the fact that the original estimate did not include any goods now sent by water-carriage. Mr. Pare contemplates a revenue from goods now conveyed by canal and sea, of £8,016 9s., being a charge for conveying 8,438 tons annually, the whole distance, at 3d. per ton per mile. The goods at present conveyed by van and waggon, Mr. Pare estimates as equal to 32,998 tons, conveyed the whole distance annually, to which he assigns a charge of 4d. per ton per mile, making a sum of £41,798 0s. 2d. Assuming that Mr. Pare is right as to quantity (and it will be seen, on reference to his description of the mode in which his information was obtained, that there is no reason to believe it to be overstated), it is worth while to consider whether the rate of charge is not too low. It is not unfrequently the case that lines of railway have to compete with canals, having the same termini, and running through the same country. This is not the case with the Southampton Railway. The Basingstoke Canal, the River Wey navigation, and the Thames, afford a line of water-conveyance between London and Basingstoke. The river Itchen having been made navigable between Southampton and Winchester, affords a similar medium of transit between

those two places, but the connecting link from Winchester to Basingstoke is wanting, and in all probability, ever remain so, by reason of the difficulties of the country, and the impossibility of obtaining a supply of water. In the conveying of goods from London to Southampton, or *vice versa*, the railway, therefore, has no competing canal.¹ The only competition, as regards either the charge for conveyance, or the speed, is to be found in the common stage-waggon or cart on the turnpike-road, and the charge for conveying goods by these is from 10d. to 1s. per ton per mile. Surely it will be a sufficient boon to the public if the present charge is diminished one-half, and the time reduced from three days to less than half a day. Taking, therefore, the quantity of goods, as ascertained by Mr. Pare, at a charge of 6d. per ton per mile, the annual amount receivable from this source of income, will be £62,697 0s. 3d., instead of £29,768 6s. as assumed in the original estimate, and this, too, without calculating on a single ton of goods now conveyed by sea or by canal. In now adopting the former sum as the more probable approximation to the amount which will be actually received, the directors are aware that they are taking what may appear to be too great a leap, but they are of opinion that the amount derivable from the conveyance of goods will then be much understated, and their reason for that belief is that, to make that sum, it is only necessary to calculate on half the present charge for conveying such goods as are now conveyed by public land carriers. Nothing, for instance, is put down for conveying coals, which are now conveyed by land from Southampton as far north as Basingstoke, from which source alone a large additional revenue must inevitably accrue to the railway; nor is anything put down for the conveying of many other articles which will almost necessarily be sent by the railway.

The next item in the original estimate of revenue, is the sum which it is presumed will be receivable from the conveying of cattle, sheep, and other live stock, which it was estimated will produce £27,155 per annum. Mr. Pare makes this item only £8,309 14s. 2d.; and in his account of the data on which his calculations are founded, he says, "The cattle and sheep counted on the road during the fortnight's observation in April and May, have in this estimate been taken to be the average of the year. There can be no doubt, however, that the number observed is greatly under the average number, the time of the observation being unfavourable for this species of traffic." In support of the original estimate, it may be said that it was proved before parliament by persons practically acquainted with the matter, resident in the country through which the cattle pass, and interested in that species of trade; persons who were fully capable of appreciating the advantages that would result to the farmer, the grazier, and the public, from the avoidance of what is technically called "sinking" in the animals, by carrying instead of driving them, as well as avoiding the expense of the latter: it must, however, be admitted that there is no evidence from actual experi-

¹ It is a remarkable fact that, owing to this circumstance, and the consequently greater existing necessity of resorting to land conveyance, the London and Southampton Railway will cause the discontinuance of more waggons than will the London and Birmingham, in the proportion of eighty-two to fifty-four.

ence on this head. The cattle and sheep by which Liverpool is supplied come by sea from Ireland and Scotland, and those which are sent from Liverpool to Manchester are found rather to recover the effect of the previous sea voyage by the walk to Manchester, than to suffer any further detriment thereby. But this will not be the case with cattle fresh from the pasture or the stall. The object of the grazier will be to send the animal into market with all his flesh and all his best condition, and it will be to his interest to pay for the conveyance by railroad rather than the somewhat lesser charge of driving, accompanied as it is by positive depreciation. It is believed that these reasons will justify the estimate so far as cattle are concerned ; as for sheep and lambs they are conveyed in great numbers on the Liverpool and Manchester line, and will doubtless be carried in still greater quantities from the pastures of Hants and Wilts to London. This is the last item in what was denominated "the present traffic" in the original prospectus.

"The prospective traffic, additional to the actual traffic," consisted,

First, of a revenue to be derived from the carriage of fish from the Torbay fishery, estimated at £23,333 6s. 8d. It was proved before parliament, that much of the fish caught at the Torbay fishery, although of the most superior quality, was rendered useless, or sold at comparatively small prices, by reason of the distance from London. The time expended in conveying it by ordinary means destroyed the quality of the fish ; and the cost of carriage by coach (a mode sometimes resorted to all the way from Exeter) is such as to render it unprofitable ; but that if the fish were brought by steam-boats to Southampton, and thence by railroad to London,¹ the whole journey from the fishing ground would be performed in little more than twelve hours, and at a trifling expense as compared with that which must now be paid for a less degree of expedition. Persons well acquainted with the business gave their decided opinion that the certainty of finding a quick mode of conveying the fish from Southampton to London, would cause such a quantity to be brought to the former place, as would, at a moderate charge, produce the sum named. The proprietors will form their own judgment upon the matter, which evidently is, at present, one rather of opinion than of fact.

The next item in the "prospective traffic" is expected to arise from an increase of 100 per cent. on the passengers now travelling. No instance can be produced where the opening of a line of railway has led to so small an increase as 100 per cent. In the case of the Liverpool and Manchester Railroad, the passengers have nearly quadrupled, and have increased twenty-fold on the Stockton and Darlington, hence there cannot be a doubt that this calculation will be more than borne out by the result. There are in addition to those sums already noticed, two comparatively small amounts set down as a revenue to arise from the carriage of country killed meat (£4,666 13s. 4d.), and an increase on the carriage of goods, £5,569 4s. 0d.)

¹ The passage up channel from off Cowes to London, by steam-boat, requires an average of twenty-eight hours. When the railroad is completed, it will be accomplished in from four to five hours. The effect of this, in respect to passengers arriving in or quitting the English channel can scarcely be calculated on.

The result of this review of the traffic has been to satisfy the directors of the absolute certainty of an ample revenue; which they feel themselves perfectly justified in stating thus, viz. :—

PRESENT TRAFFIC AT RAILWAY PRICES.

Stage-coach passengers, according to the statement of Mr. Chaplin	-£123,824	2	8
Parcels, as stated by Mr. Chaplin	20,253	9	0
Posting, as stated by Mr. Pare	11,331	4	8
Waggon traffic, taking the quantity stated by Mr. Pare (but excluding all that now goes by sea or canal), 6d. per ton per mile	62,697	0	3
Cattle traffic, as stated in the original estimate	27,155	0	0
			<u>£245,260 16 7</u>

PROSPECTIVE TRAFFIC.

Torbay Fishery	23,333	6	8
100 per cent. increase on passengers now travelling by stage-coaches	123,824	2	8
Country killed meat	4,666	13	4
Increase on heavy goods	5,569	4	0
			<u>156,393 6 8</u>
			<u>£ 402,654 3 3</u>

Deduct for cost of maintenance of way, power, and all expenses relating to the conveyance of passengers and parcels, 33½ per cent., say one-third of £279,232 19s.	93,077	13	0
Deduct 50 per cent. on the remainder, say half of £123,421 4s. 3d.	61,710	12	1½
			<u>154,788 5 1</u>

Leaving a net annual income of - - £247,865 18 1½

N.B. No increase is taken on those persons travelling with post horses.

In thus setting forth their own opinions on the revenue which they believe they have a right to expect from existing circumstances, the directors neither have any wish nor any interest beyond that of the proprietors in making the undertaking appear more promising than it really is; they have therefore thought it right to be thus circumstantial in giving not only their opinions, but the data on which those opinions are founded, and they have a perfect reliance that the more the matter is inquired into, the more satisfactory it will appear to the inquirer. Owing to the want of that inquiry, and the too ready belief of detracting reports, the property of the shareholders has been and still remains depreciated. If proof of this were wanting, it is to be found in this simple fact, that the present coach and posting traffic on the line, without any increase, without conveying a single ton of goods, without conveying cattle, sheep, fish, agricultural produce, or any one thing

besides, and deducting one-third for expenses, would realise a net revenue of £103,605 17s. 1d.,¹ which is upwards of six per cent. on the sum that, according to the estimate of Mr. Locke, will be required for the completion of the railway. It is, however, perfectly obvious that there must be a very large increase in this department of revenue. Experience has proved that the public will avail themselves of the great measure of convenience which is afforded by a railway, and there is no reason to suppose that the inhabitants of the district through which the Southampton Railway passes, or to which it leads, will be more slow to appreciate that convenience than the inhabitants of other parts of the kingdom. On the contrary, the directors feel they are justified in expecting as large a rate of increase in the trade on the line of the Southampton Railway as has occurred on any line in the kingdom. Some opinion of the growing importance of Southampton may be formed from the fact that, in the twenty years between 1811 and 1831, the population has more than doubled, as may be seen from the parliamentary census. If this has been the case hitherto, what may not be expected when the natural beauties and facilities of Southampton, the Isle of Wight, and its neighbourhood, are made available in the far greater degree which they will by the construction of the railroad? It cannot be too often impressed on the minds of the proprietors, that the foregoing statements are based upon things as they now exist; that nothing is assumed on account of Southampton being possessed of the finest harbour for mercantile purposes on the southern coast of England, a harbour which is about to be made still more available for those purposes by means of the construction of docks; or because its situation is singularly eligible, not only as a point from which foreign and colonial produce can be distributed over a vast extent of country when the railroad is in use, without being charged with the additional cost of passing first up to London and then down again; or because it will afford even to London itself, by the creation of the railroad, the means of avoiding the delays, the dangers, and the consequent expense and loss, incurred in navigating the English Channel and passing round the North Foreland and up the Thames. To what extent the mercantile interests of the metropolis may find it desirable to avail themselves of this facility time alone can determine, but that it will be to a considerable extent cannot be doubted.

It is highly worthy of remark, that the circumstance of this railway having one of its termini at the water's edge in Southampton harbour, and the other at a wharf on the banks of the Thames, affords every convenience which nature and art combined can give for such a traffic. With respect to the situation of the London terminus, as it bears upon the convenience of passengers, the following statement of the distances from the Royal Exchange and from Charing Cross of the termini of the

¹ Present stage-coach passengers	-	£123,824	2	8
Parcels	-	20,253	9	0
Posting	-	11,331	4	8
		155,408	6	4
Deduct one-third for expenses	-	51,802	18	9
Total	-	£103,605	17	1

London and Birmingham, the Great Western,¹ and the Southampton Railways, will show the local merits of each.

Distance from	To Charing Cross.	To the Royal Exchange.
The terminus of the London and Birmingham Railway at Euston Square - - -	1 mile 65 chains.	3 miles 16 chains.
The terminus of the Great Western Railway at Paddington - - - - -	2 " 60 "	4 " 26 "
The terminus of the London and Southampton Railway at Vauxhall - - -	1 " 77 "	3 " 9 "

In addition to the usual accommodation by omnibuses, arrangements are being made by which the passengers will be conveyed in small steam-boats, and landed at any point between Vauxhall and London Bridge within a few minutes of the time of their arrival at the station. These small steam-boats will be in waiting at the terminus wharf, for the arrival of the different trains, and in like manner they will start from the different points of embarkation along the river in time to reach the station before the departure of the trains.

In concluding this part of their report, the directors beg to refer to the accompanying plan, showing the places from whence passengers will be conveyed by this railway, by which it will be seen that it is not a railway to Southampton alone, but that, while it affords to the inhabitant of the metropolis a cheap and expeditious mode of travelling to one of the most delightful parts of England, it confers a corresponding benefit on the greater part of the county of Surrey, on the whole county of Hants (including the Isle of Wight), also on Guernsey and Jersey, and on a considerable portion of Wiltshire and Dorsetshire, which counties contain a population of no less than 1,199,072 souls.

¹ Taken from a recent publication, entitled "Analysis of Railways," by Francis Whishaw, Esq., Civil Engineer

A TABLE, SHOWING WHERE PASSENGERS TO AND FROM THE FOLLOWING PLACES WILL JOIN AND LEAVE THE RAILWAY, AND THE SAVING IN TIME THAT WILL BE EFFECTED BY THEIR USING THE RAILWAY.*

	Distance on the Railway.	Time occupied when the Railroad is available.		Saving in time.	
	Miles.	Hours.	Minutes.	Hours.	Minutes.
^a Bridport - - - -	77	11	6	3	54
Weymouth - - - -	77	10	19	3	56
Dorchester - - - -	77	9	25	3	55
Wareham - - - -	77	7	39	4	45
Poole - - - -	77	7	12	5	28
Wimborne - - - -	77	6	32	5	22
Ringwood - - - -	77	5	24	5	47
Christ Church - - - -	77	6	19	4	51
Lymington - - - -	77	4	59	5	37
The Isle of Wight - - - -	77	4	59	5	31
Southampton ¹ - - - -	77	3	12	5	31
Titchfield - - - -	77	4	12	4	1
Fareham ² - - - -	77	4	39	3	26
Gosport ³ - - - -	77	5	6	3	37
Portsmouth - - - -	77	5	12	2	48
Guernsey - - - -	77	13	12	5	18
Jersey - - - -	77	16	12	5	18
^b Winchester ⁴ - - - -	65	2	42	4	31
Alresford - - - -	65	3	29	2	53
Romsey - - - -	65	3	48	4	19
^c Blandford - - - -	56	7	40	3	50
Sturminster - - - -	56	8	20	3	49
Shaftesbury - - - -	56	7	26	3	47
Wilton - - - -	56	5	40	3	43
Salisbury - - - -	56	5	14	3	46
Stockbridge - - - -	56	3	36	3	44
Hindon - - - -	56	7		3	40
Andover ⁵ - - - -	46	3	55	3	8

* This table is here abridged.

^a Will join the railway at Southampton.

^b Will join the railway at Winchester.

^c Will join the railway at Popham Beacons.

^d Will join the railway at Basingstoke.

¹ Done in 24min., saving 6h. 43min.

² Done in 2h. 58min., saving 5h. 57min.

³ Done in 2h. 20min., saving 6h. 23min.

⁴ Done in 2h. 19min., saving 4h. 54min.

⁵ Done in 2h. 1min., saving 5h. 3min.

TABLE CONTINUED.

	Distance on the Railway.	Time occupied when the Railroad is available.		Saving in time.	
	Miles.	Hours.	Minutes.	Hours.	Minutes.
Ludgershall - - -	46	4	42	3	11
Whitchurch - - -	46	3	8	3	9
Kingsclere - - -	46	2	55	3	14
Basingstoke ⁶ - - -	46	1	55	3	12
Amesbury - - -	46	5	28	3	12
• Odiham - - -	40	2		2	30
[†] Alton - - -	31	3	4	2	20
Farnham - - -	31	1	57	2	26
Farnborough ⁷ - - -	31	1	17	2	8
Blackwater - - -	31	1	44	1	36
Frimley - - -	31	1	17	2	3
• Bagshot - - -	23	1	37	1	16
Godalming - - -	23	2	3	1	40
Guildford - - -	23	1	37	1	43
Chobham - - -	23	1	17		
Weybridge ⁸ - - -	17½		44	1	29
Walton ⁹ - - -	15		37	1	23
Esher ¹⁰ - - -	12		37	1	6
Kingston - - -	10		25		31
Wimbledon ¹¹ - - -	6		15		35

• Will join the railway at Hook Common.

[†] Will join the railway at Farnborough.

• Will join the railway at Woking Common.

⁶ Done in 1h. 33min., saving 3h. 24min.

⁷ Done in 1h. 4min., saving 2h. 21min.

⁸ Cobham, Ripley, Chertsey, Addlestone, Thorp, and Byfleet join here.

⁹ Hersham joins here.

¹⁰ Hampton, Hampton Court, Thames Ditton, Long Ditton, East and West Moulsey join here.

¹¹ Merton joins here.

**CORNWALL RAILWAY,
FROM PLYMOUTH TO FALMOUTH**

CAPITAL—£900,000, in 18,000 Shares, of £50 each.

DEPOSIT—£3 per Share.

No shareholder to be responsible for more than the amount of his share. Interest to be allowed to the shareholders, at the rate of 4 per cent. per annum, on all paid-up calls from the date of payment until the railway is completed.

PROVISIONAL COMMITTEE (all of whom are shareholders.)

J. T. Treffry, Esq. Place, Chairman
The Right Hon. the Earl of Falmouth, Tregothnan
Earl St. Germans
Lord Clinton
Lord Wodehouse
The Right Hon. Lord Eliot, M.P. Port Eliot
Sir Charles Lemon, Bart. M.P. Carclew
E. W. W. Pendarves, Esq. M.P. Pendarves
W. Tyringham Praed, Esq. M.P. Trevethow
Edmund Turner, Esq. M.P. Truro
John Allen, Esq. Liskeard
John Batten, Esq. Penzance
R. R. Broad, Esq. Falmouth
Clement Carlyon, M.D. Truro
William Carne, Esq. Rosemundy
G. C. Fox, Esq. Grove Hill
R. B. Fox, Esq. Perranarworthal
John Gwatkin, Esq. Parc Behan
John Nelson, Esq. Doctor's Commons
T. J. A. Robartes, Esq. Lanhydrock
George Smith, Esq. Camborne
William Tweedy, Esq. Truro Veau
W. M. Tweedy, Esq. Alverton
John Vivian, Esq. Pencalenick

With power to add to their number.

The directors of the Great Western, Bristol and Exeter, Bristol and Gloucester, and South Devon Railway Companies, who will be nominated hereafter.

ENGINEER—Captain W. S. Moorsom, C.E.

BANKERS.

Messrs. Tweedy, Williams, and Co. Truro and Falmouth
" Glyn, Halifax, Mills, and Co. London
" Praed, Fane, and Co. London

SOLICITORS—Messrs. Smith and Roberts, Truro
 SECRETARY (pro tem.)—P. P. Smith, Esq. Truro

The object of this undertaking is to connect the port of Falmouth with the naval station at Plymouth, and, by the South Devon and Bristol and Exeter Railways, with Bristol, where the great lines of railway communication with the metropolis and the north of England now meet, and thus to bring Falmouth, the most westernly port in the channel, within eleven hours of London, and fourteen hours of Liverpool and Manchester.

The works of the South Devon Railway from Exeter to Plymouth being now in rapid progress, with a view to completion in two years, the time has arrived when it becomes essential to bring forward the plan for a western extension in conjunction with the Great Western, Bristol and Exeter, Bristol and Gloucester, and South Devon Railway Companies.

The provisional committee having laid the plans and estimates of construction, and the traffic case in detail, before the directors of these Companies, they have agreed to unite in contributing £250,000 to the capital of this railway.

The associated Companies having thus identified themselves with this undertaking, the Cornwall Railway Company will have the advantage in its operations of the advice and assistance of members of their boards, and the works will be carried on with the approbation, and under the supervision, of the experienced and talented officers of these Companies.

A large proportion of the leading landed proprietors in the county have given assurances of support in land and money—a considerable local connection has been formed, and a large number of shares have been taken up, and no opposition or difficulty is anticipated in obtaining the act.

The necessary steps have therefore been taken to bring a bill before parliament in the next session for constructing the Cornwall Railway.

From the surveys that have been made by Captain Moorsom, C.E., it appears that the line would pass through Torpoint, within three quarters of a mile of St. Germans, touching Liskeard, near to Bodmin and Lostwithiel, through Par and St. Austell, by St. Stephens and Tresillian, to Truro. From Truro the course of the line would be towards Bissoe and Pollean Cross, to connect with the great mining and western districts of this county, and from thence by Ponsnooth and Penryn to Falmouth.

The proposed line will pass through the richest and most densely peopled mining, commercial, and agricultural districts of Cornwall. In the principal parts of these districts the habits of the people are peculiarly locomotive. A large and constant passenger traffic already exists, of a description which would be immensely increased by the facilities of railway communication.

The line will be connected on the north with the Wadebridge and Bodmin railway, the Newquay railway, and the Caradon railway, and on the south with the Par and Pentewan railways, and the Looe and Liskeard canal, from each of which a considerable amount of valuable

traffic will be brought upon the Cornwall railway, and the communication with the ports on the north and south coast greatly facilitated.

The eastern mining districts of Cornwall and Devon, around Callington, Tavistock, and Liskeard, are much connected with the central and western mines of St. Austell, Tywardreath, Gwennap, Redruth, Camborne, and Penzance, and between these populous and important districts, a constant and increasing intercourse exists.

The completion of the railway from Penzance, which, passing through the great western mining districts, will join the proposed line of the Cornwall railway between Truro and Falmouth, and for which a bill is to be brought before parliament next session, will bring a great accession of traffic from those districts.

The Cornwall railway will not only be in itself important and of great local advantage, but will in fact be the terminus of a metropolitan trunk line, and also the terminus of a line from the great manufacturing districts of the north, so that the carriage which leaves London in the evening, will be at Falmouth in the morning, after eleven hours' journey, and the passengers from Manchester or Liverpool, may arrive at Falmouth in fourteen hours.

It will also be the western link of the great chain of coast lines now formed, or in progress, from Dover on the east, to Penzance in the west, and will thus eventually receive the traffic of these sources, flowing to and from our western possessions.

The well-known advantages and capabilities of the port of Falmouth, and the opinions unequivocally expressed by the commissioners appointed by government in 1840, to inquire into the comparative merits of the ports then suggested for the mail packet station, "that if a railroad existed to the south-west Land's End, and a harbour were constructed in that neighbourhood, where the mails might with facility be put on board and landed, they would unhesitatingly recommend that harbour to the adoption of government," make it evident that the construction of the proposed railway would render Falmouth the best port in the kingdom for the embarkation and landing of the mails for the West Indies, the Peninsula, the Mediterranean, and all our transatlantic possessions. That this port will be largely used by passengers proceeding by these packets, and also by passengers arriving from and departing for our foreign possessions in sailing vessels, is evident from the anxiety always felt by those who have endured a long sea voyage to reach the shore, and from the desire which most persons feel to avoid the delays and danger of the channel navigation. The reasons which now induce outward-bound Indiamen to call at Cowes or Portsmouth to embark their passengers, will apply with greater force to a more western port, when a railroad shall bring that port within eleven hours of the metropolis.

The largely-increasing number of vessels, which, even under the present mode of travelling, call, whether for passengers or orders, at Falmouth, shows that expectations of traffic, to a large extent, may be well founded on these grounds; but in the calculations now submitted, the committee have confined themselves to the usual increase upon the existing trade, which is alone sufficient to show that this undertaking will prove a highly advantageous investment.

The estimated expense of the line, including the cost of land, preli-

minary and parliamentary expenses, stations, and working stock, does not exceed the sum of £900,000, which is to be raised by 18,000 shares of £50 each.

The accompanying estimate of traffic, deduced from very careful observation made at twenty-three different stations on the roads, shows the following result, viz. :—

From passengers by coaches and other public conveyances	£56,576
„ „ post-chaises, private carriages, cars, gigs, &c.	13,936
„ parcels, goods, &c.	9,048
„ coal, sand, corn, cattle, fish, and vegetables	11,804
„ by conveyance of the mails	2,600
	<hr/>
	£93,964
Estimated annual cost of working, 40 per cent.	37,584
	<hr/>
Nett revenue	£56,380
	<hr/>

This calculation, which shows a return of upwards of 6 per cent. on the capital, is made upon principles allowed in proof before parliamentary committees, but does not include the carriage of any of the mineral produce of the county, or of mining materials, or of manures, other than sand; nor is any credit taken for the large revenue which may be anticipated from the probable return of the packet establishment, and from the certain increase of passengers who will embark and disembark at Falmouth when they can avail themselves of the benefit of railway communication.

Cornwall possesses within itself great facilities for the construction and maintenance of railways.

Its numerous foundries from which engines and other machinery are forwarded to all parts of the world, the able engineers who are brought up within it, and the skill and enterprise of its labouring population, will all conduce to the cheap and good construction of the line and works.

The committee cannot but express their fullest confidence, that the dense population of this county, and its locomotive habits, its rich and important mineral produce, the south-western position, unrivalled safety and capabilities of its harbours, not exceeded by any ports in the kingdom, its genial climate, possessing mildness and uniformity not surpassed by the south of France, which has long rendered it the resort of invalids, the early productions of its soil, and the anticipated restoration to Falmouth of the packet establishment, will all contribute to produce a satisfactory return on the capital invested, and secure to Cornwall that pre-eminence it has always till now enjoyed as the high road to the Indian, peninsular, and transatlantic portions of the world.

The usual power will be taken by the act to allow interest at the rate of 4 per cent. per annum on the deposit, and on subsequent calls, from the time of payment into the bankers' hands, until the railroad may be opened for traffic; and no subscriber will be answerable for more than the amount of his deposit of £3 per share until the act be obtained, and then not beyond the amount of his subscription.

A deposit of £3 per share will be payable at the bankers on the

allotment of the shares; and the subscribers' agreement and parliamentary contract must be signed on or before the 31st day of December next.

Applications for shares in this company addressed to the solicitors, or to Messrs. Foster and Braithwaite, Old Broad Street, London, from either of whom prospectuses may be obtained, will be received and registered, and the committee will allot them to unexceptionable parties in the order in which the applications may have been made—it being understood that in all cases references will be required.

FORM OF APPLICATION.

TO THE PROVISIONAL COMMITTEE OF THE CORNWALL RAILWAY.

Gentlemen—I request you will allot to me shares of £50 each in the Cornwall Railway, on the terms and conditions of the prospectus; and I undertake to pay the deposit, and sign the subscribers' agreement and parliamentary contract.

Dated the day , 1844.

Name.
Residence.
Trade or profession (if any).

Reference

WEST CORNWALL RAILWAY,

FROM TRURO TO FALMOUTH, REDRUTH, HAYLE, AND PENZANCE.

CAPITAL—£180,000, in 9,000 Shares, of £20 each.

DEPOSIT—£1 5s. per Share.

Offices—4, New Broad Street, London.

PROVISIONAL COMMITTEE.

Sir Charles Lemon, Bart. M.P. Carclew
E. W. W. Pendarves, Esq. M.P. Pendarves
John Philpotts, Esq. M.P. Porthgwydden
Edmund Turner, Esq. M.P. Truro
Francis Bassett, Esq. Mayor of Truro
John Batten, Esq. Mayor of Penzance
J. J. A. Boase, Esq. Lariggan
Clement Carlyon, Esq. M.D. Truro
William Carne, Esq. Falmouth
Thomas Coulson, Jun. Esq. Penzance

Wentworth Croke, Esq. Falmouth
 R. V. Davey, Esq. Penzance
 H. J. Enthoven, Esq. Old Broad Street
 John Davis Gilbert, Esq. Trelissick
 A. L. Gower, Esq. Colman Street
 Alfred Jenkin, Esq. Trewirgie
 Edwin Ley, Esq. Lannoweth
 Francis Mowatt, Esq. Old Broad Street
 James Oliver Mason, Esq. New Broad Street
 John Paynter, Esq. Boskenna
 Richard Pearce, Esq. Penzance
 Samuel Pidwell, Esq. Penzance
 Frederick Ricketts, Esq. Old Broad Street
 The Rev. Canon Rogers, Penrose
 Francis Rodd, Esq. Trebartha
 Vyvyan Robinson, Esq. Redruth Rectory
 John Scobell, Esq. Naucalverne
 George Smith, Esq. Camborne
 Seymour Tremenheere, Esq. Tremenheere
 John Vigurs, Esq. Rose Hill
 Louis Vigurs, Esq. Old Broad Street
 C. K. Vigers, Esq. Truro
 Humphrey Wilyams, Esq. Carnanton

With power to add to their number.

ENGINEER.

Capt. W. S. Moorsom

LONDON BANKERS.

Messrs. Denison, Heywood, Kennards, and Co. 4, Lombard Street

SOLICITORS.

Messrs. Thomas and Francis Edwards, Gray's Inn

SECRETARY.

John Macdonnell, Esq.

This railway is designed to connect the prosperous mining districts lying west of Truro, embracing a population of 150,000 persons, and containing almost all the great mines of the county of Cornwall: and the provisional committee being in possession of a communication numerously signed by the inhabitants of Penzance and the neighbourhood, are induced to promote an undertaking, which has received such decided promises of local support.

The Hayle Railway, incorporated by act of parliament in 1834 passes through a portion of this district; but the accommodation it affords, especially to passengers, is at present imperfect, and the traffic consequently far below that which a more extensive measure would ensure.

A provisional arrangement has been entered into between the committee and the Hayle Railway Company, by which it is proposed that the latter should engage to take a lease of the new railway, securing

4 per cent. per annum on the capital, with an equal division of surplus profits.

The road traffic has been subjected to accurate observation, and the entire line from Truro to Penzance (including the present receipts of the Hayle Railway), will produce a revenue of £49,000. Deducting from this the working expenses at the usual rate of 40 per cent., the net return on the whole line from Truro to Penzance will be £29,400 per annum, leaving an annual sum of £18,300 to be divided upon £180,000, or upwards of 10 per cent. on the capital to be invested in the West Cornwall Railway.

The proposed Cornwall Railway, the surveys for which are now completed, will unite with this line between Truro and Falmouth, and consequently increase the traffic above stated.

The present traffic between Hayle and Penzance,		
amounts annually in passengers and light parcels, to about	- - - - -	£6,300
in goods, to	- - - - -	14,700
		<hr/>
	Hayle and Penzance - - - -	£21,000
The present traffic between Redruth and Truro,		
amounts annually in passengers and light parcels, to about	- - - - -	£6,000
in goods, to about	- - - - -	11,000
		<hr/>
	Redruth and Truro - - - -	17,000
The present gross traffic on the Hayle Railway (between Hayle and Redruth) amounts annually in passengers and goods, to about		£11,000
		<hr/>
	Hayle and Redruth - - - -	11,000
		<hr/>
		£49,000
		<hr/>

It may be observed, that the foregoing does not include any prospective traffic, nor any portion of that now existing between Penzance and Falmouth.

The surveys have been carefully made, and the committee are satisfied that the line may be constructed within the proposed capital.

A plan of the railway, with the distances and principal features of the district, is annexed.

The usual power will be taken in the act of parliament to allow interest at the rate of 4 per cent. per annum on the deposit, as well as on all future calls, from the date of each payment, until the opening of the line, or until a dividend be declared.

Applications for shares, made by letter addressed to the secretary, at No. 4, New Broad Street, London, will be received and registered until the 7th of October next, when the committee will proceed to allot them to unexceptionable parties, it being understood that in all cases references will be required.

4, New Broad Street, London

September 25th, 1844.

PRESTON AND LONGRIDGE RAILWAY.

CAPITAL—£30,000, in 600 Shares, of £50 each.
DEPOSIT—£2 per Share.

PROVISIONAL DIRECTORS.

Peter Hesketh Fleetwood, Esq. M.P. Chairman
 James Blanchard, Esq. Grimsargh
 James Dilworth, Esq. Preston
 Charles Buck, Esq. Preston
 David Nuttall, Esq. Longridge
 James Fair, Esq. Broughton

**BANKERS—Messrs. Lawe and Hudson, Preston. Messrs. Jones, Lloyd,
 & Co., London**

SOLICITORS—Messrs. Dixon and Abraham, Preston

ENGINEER—H. W. Bushell, London

**PARLIAMENTARY AGENTS—Messrs. Lord and Northouse, New Charter
 and Parliamentary Agency Offices, 1, Manchester Buildings, West-
 minster**

PROSPECTUS.

The acknowledged advantages which a railroad conveyance has over every other mode of transit are too generally known to require comment.

The town of Preston has for some years past been rapidly improving in its manufactures and trade, extensive factories are now erecting, and considerable extensions of the town in every direction are in progress. The most approved material for building purposes is the Longridge stone, which stands unrivalled for its durability, and for the facility with which it can be worked into its required form.

It is proposed to commence the line of railway at or near to the stone quarries upon Longridge Fell, from thence proceeding with a self acting plane to an intersection of four roads, called Four Lane Ends. The remainder of the line to Preston will be formed upon a gradual declivity, and terminate with a depôt, or stone yard, near to the North Road. It is, however, assumed, that eventually a junction will be made with the railway now forming from Preston to Wigan, and also with the Preston and Wyre Railway, which will shortly be commenced. The latter giving a ready communication with Liverpool and the neighbourhood, whither a very considerable quantity of this stone has been sent, and for which there is a great demand. By such connexions, the demand for the material will be considerably increased, as well as by the immediate reduction in the cost of carriage from Longridge to Preston. The present charges for carriage are 5s. per ton for the large, and 3s. 6d. per ton for the small stones. Only one-half of these charges is intended to be made by the Company, viz., 2s. 6d. and 1s. 6d., thus making a reduction of 4s. 6d. per square yard, in the price of stone work.

The merits of the undertaking may also be seen, when it is known

that two horses, now drawing (with great labour) 3 tons per day, upon the present road, will (with less difficulty) convey 40 tons per diem upon the proposed line of railway.

In consequence of the immense traffic upon the public road from Longridge to Preston, which is unsupported by a toll, it is continually in need of reparation, the expenses of which devolve upon the owners and occupiers of the adjacent lands; it is therefore proposed to remove, in some measure, this unjust burthen, by forming a line of railway in the direction described upon the annexed plan, distinct and entirely unconnected with the present road.

A section and survey have been taken, upon which the following calculations are based, which section forms a gradual declivity towards Preston the whole distance :—

ESTIMATED COST.	
Land - - - - -	£4,000
Cuttings and embankments - - - - -	6,000
Fencing, occupation gates, and draining - - - - -	2,150
Ballasting, or forming surface of permanent road - - - - -	1,150
Stone blocks, rails, chairs, and fixing - - - - -	10,000
Bridges - - - - -	1,050
Offices, cranes, and gear for an inclined plane - - - - -	1,700
Horses, waggons, &c. - - - - -	1,000
Expenses of obtaining act, surveys, &c. - - - - -	1,000
	<hr/>
	£28,050
Add for contingencies - - - - -	1,950
	<hr/>
	£30,000
ANNUAL EXPENSES.	
Annual repairs, superintendent, clerks, &c. - - - - -	£1,000
Fifteen men, attending horses, crane, and inclined plane - - - - -	486
Keep of fifteen horses - - - - -	450
	<hr/>
	£1,936
Incidental expenses - - - - -	64
	<hr/>
	£2,000
	<hr/>
ANNUAL RETURNS.	
52,000 tons of stone are now brought to Preston and adjacent places, from Longridge, &c., for building purposes, for which it is proposed to charge 2s. 6d. for large and 1s. 3d. per ton for small stone, average 2s. 2d. - - - - -	£5,633
For the conveyance of coals, manure, farm produce, &c. - - - - -	1,000
	<hr/>
	£6,633
Deduct annual expenses as above - - - - -	2,000
	<hr/>
	£4,633
	<hr/>

The sum of £4,633 per annum gives an income of 15½ per cent. upon the outlay.

The above estimate of returns will be found to contain only the quantity of stone which is now delivered in Preston for building purposes. The great increase which will arise from the reduction in price, the facility with which Liverpool and other places will be supplied with this material, as well as the whole country of the Fylde, below Preston, the conveyance of lime and lime-stone from the kilns and quarries near Longridge, and the transit of corn and other commodities from Preston towards Clitheroe, and other parts—matters which, although thought of, are not included in the estimate of returns: these are left for the judgment and discernment of the public, to determine whether they will not afford additional benefit to the undertaking.

H. W. BUSHELL, Civil Engineer.

Preston, August, 1835.

Application for shares to be made to Messrs. Dixon and Abraham, solicitors; or to Messrs. Lawe and Hudson, bankers to the Company; of whom prospectuses may be obtained; also for the 100 London shares, to Mr. Lord, solicitor, 3, Birchin Lane (late of Lincoln's Inn Fields), agent for the sale of the London shares.

CONDITIONS.

No person will be responsible beyond the amount of his (or her) respective shares.

All deposits to be paid into the hands of the bankers or solicitors, to the account of the provisional directors.

The deposits will be available for the necessary expenses of the undertaking, surveys, obtaining act of parliament, &c.

The provisional directors to act without fee or reward.

NORWICH AND BRANDON RAILWAY.

It is proposed to form a railway from the city of Norwich to Brandon (a distance of thirty-five miles), in the most favourable direction for its extension to London, and also to the western and midland districts of the kingdom.

The importance of a railway communication in this direction has been long felt by parties locally interested; and during the last session of parliament was more particularly brought under public notice, by the discussions that took place upon the Northampton and Peterborough Railway bill. Upon that occasion, the committee of the House of Lords, to whom the bill was referred, after a most patient and laborious investigation of the evidence brought before them, came to the unanimous resolution, which they embodied in their report to the house, "that the amount of traffic between the manufacturing districts and the country lying to the east of Peterborough, appeared from the evidence so important, as to render the extension of the

Northampton and Peterborough Railway in that direction extremely desirable."

The reason for now proposing to form a railway from Norwich to Brandon by an independent company is, that the country between those places is very favourable for railway operations, and the returns upon that part of the line combining the double traffic between Norwich and London and the manufacturing districts, are such as to hold out a certain prospect of a large return upon the capital required for its construction. The country is even more favourable for the extension of the line in a westerly direction towards Peterborough; and the interests both of the London and Birmingham and Northern and Eastern Railway Companies are so obviously concerned in such extension, as to leave little doubt of its being made, at no distant period, by one or other of those Companies.

Official communications have been received from the Eastern Counties and the Northern and Eastern Railway Companies, announcing their approval of the present plan, and their intention of applying to parliament in the next session for powers to extend their own lines so as to unite with it—the Eastern Counties by a line from Colchester by Bury St. Edmund's and Thetford, and the Northern and Eastern by way of Cambridge and Ely—leaving only the short interval between Ely and Peterborough wanting to complete the chain of railway communication to the western and manufacturing districts.

The line has been selected by Mr. Robert Stephenson and Mr. Bidder, who have expressed a confident opinion that it may be made at a cost of £10,000 a mile, at which cost contractors of eminence and unquestioned responsibility have offered to enter into immediate contracts for the execution of the works.

This cheapness of construction will ensure to the public the advantages of a railway at a low rate of charge, while the extent of traffic likely to come upon the line may be judged of by the fact, that there are at present sixteen coaches travelling daily each way between Norwich and the places to which the proposed line would lead, and, consequently, interested in using it for its entire length.

This traffic alone would produce an annual revenue of upwards of £23,000, without taking credit for the increase which has invariably resulted from the formation of a railway: and if to this be added the local traffic by posting, gigs, &c., and the traffic which would necessarily arise in goods, agricultural produce, sheep, cattle, and fish, the returns, after making a liberal allowance for working expenses, may be fairly taken at not less than 10 per cent. on the cost of the undertaking.

It remains only to observe, that this project affords an opportunity of completing a railway communication across the country from Yarmouth to Liverpool; and affords to the manufacturers and traders of Norwich, to the merchants engaged in the fisheries of Yarmouth, and to the landowners and agriculturists and inhabitants of the county of Norfolk generally, the best opportunity which has hitherto presented itself of obtaining, at no distant period, that much-desired object—a railway communication to London and the interior; and at the same time offers to the capitalist a profitable investment for his money.

The surveys are already in a forward state, and it is intended to apply to parliament for an act in the next session.

It is proposed to divide the capital into shares of £20 each, upon which a deposit of £1 will be required to be paid upon allotment, and a further instalment of £1 (in order to comply with the standing orders of parliament), prior to the introduction of the bill.

Applications for shares will be received at the offices of Mr. Richard Till, Guildhall Buildings; and Messrs. Parker and Hayes, solicitors, 1, Lincoln's Inn Fields, London; and Messrs. Rackham, Cook, and Rackham, solicitors, Norwich.

NORWICH AND BRANDON RAILWAY.

CAPITAL—£380,000, divided into 19,000 Shares, of £20 each.

DEPOSIT—£2 per Share.

PROVISIONAL COMMITTEE.

Samuel Anderson, Esq. New Broad Street, London
 Horatio Bolingbroke, Esq. Norwich
 Robert Crosbie, Esq. Liverpool
 Adam Duff, Esq. Blackheath
 R. W. Kennard, Esq. Theobalds, Herts
 Sir Edmund H. K. Lacon, Bart. Somerton, Norfolk
 John E. Lacon, Esq. Ormesby, Norfolk
 E. Fuller Maitland, Esq. Stanstead Park, Essex
 Edward Tootal, Esq. Manchester
 Captain Charles Tyndale, Brompton
 Captain Charles Wardell, Westbourne Terrace, Hyde Park
 Henry Wilson, Esq. Stowlangtoft Hall, Suffolk

ENGINEERS.

Robert Stephenson and George P. Bidder, Esquires

BANKERS

Sir E. H. K. Lacon, Bart. and Co. Great Yarmouth
 Messrs. Glyn, Hallifax, Mills, and Co. Lombard Street, London

SOLICITORS.

Messrs. Parker and Hayes, 1, Lincoln's Inn Fields, London

The proposed Norwich and Brandon Railway is thirty-five miles in length, commencing by a junction with the Yarmouth and Norwich Railway at the city of Norwich, and terminating near to the town of Brandon, with a branch to the town of Thetford, which is three miles in length.

All the requisite formalities have been complied with, to ensure an application to parliament in the next session.

The project is brought forward with the full sanction and concurrence of the Eastern Counties and Northern and Eastern Railway Companies, who have publicly announced their intention of continuing the line to London, either by way of Bury St. Edmund's and Colchester, or by Cambridge and Bishop's Stortford, as may be found most advantageous; and they have given the requisite notices to enable them to apply to parliament in the next session for powers to make either line.

Notices have also been given by the Northern and Eastern Company for the continuance of the line in a westwardly direction to Peterborough.

The opinion of the county of Norfolk in favour of the measure has been strongly expressed at a numerous and influential county meeting, held at the Castle of Norwich, on Saturday, the 2nd December last, at which the high sheriff presided, and where resolutions in approval of the undertaking were unanimously agreed to.

The accompanying map will show the district of country which will be accommodated by the proposed line; and it will be perceived, that it is so placed as to command, along its entire length, the double traffic to London and to the manufacturing districts; it also possesses the advantage of interfering with none of the rival projects for approaching the county of Norfolk from the south; but, on the contrary, all the lines are proposed to be united with it.

All the principal landowners on the line have been seen, and, although in some cases the interference with their estates is severely felt, they have nearly all declared their intention not to oppose it, and many of them have expressed themselves most warmly in its favour.

The line has been selected under the direction of Mr. Robert Stephenson and Mr. Bidder, and is uniformly favourable, both as respects gradients and the inexpensive character of the works; the estimated cost is £10,000 a mile. In order to guard against the possibility of disappointment to the shareholders upon this important feature in the success of every railway speculation, the directors have entered into a contract with Messrs. Grissell and Peto to deliver the railway, with all the requisite stations and other works, in a complete state to the Company for the above sum, including the purchase of the land, cost of the act, and every other expense.

Working drawings of the whole of the works will be prepared under the superintendence of the engineers, previously to the bill being introduced into parliament, which will enable the Company to proceed without delay after the act has been obtained; and a confident opinion has been expressed by the engineers that the line may be finished in twelve months after it has been commenced.

It remains only to observe upon the amount of return which may fairly be expected upon the capital invested; and in doing so the promoters of the measure have been most anxious to guard themselves against all appearance of exaggeration. The subjoined estimates have been made as respects the coach passengers upon the number of coaches now actually running upon the road, calculating the parcels in the proportion which experience has shown to be fully borne out by the facts. The horses and carriages have been assumed at a per centage upon the

coach traffic, which has been also fully tested in the same way. The local traffic has been taken from actual observation upon the roads; and the goods and cattle traffic are based upon actual returns of existing traffic; and the proportion assumed, as likely to come upon the railway, has been considered very moderate by those who, from local knowledge, are best qualified to form an opinion. No addition has been made in any case for the increase of traffic, which has invariably followed the introduction of a railway into a new country, and which has been so universally resorted to in calculations of railway traffic. The following are the results:—

ESTIMATED TRAFFIC.

Coach passengers at 2d. per mile, taken on existing traffic	-	-	-	-	-	-	-	£57,922	12	1
Local passengers by omnibus, gigs, &c.	-	-	-	-	-	-	-	9,900	12	6
Coach parcels	-	-	-	-	-	-	-	4,320	8	8
Coals at 1d. per ton per mile	-	-	-	-	-	-	-	2,041	13	4
Corn and malt at 1½d. per ton per mile	-	-	-	-	-	-	-	3,062	10	0
Fish, taken from the returns of the existing traffic	-	-	-	-	-	-	-	4,790	12	6
Manufactured goods, groceries, &c.	-	-	-	-	-	-	-	2,843	15	0
Cattle—Beasts, 400 a week for 21 weeks, at 1d. per mile							}	2,176	8	4
„ Sheep, 500 a week for 52 weeks, at ¼d. per mile										
Horses and carriages	-	-	-	-	-	-	-	1,602	10	0
Conveyance of mails	-	-	-	-	-	-	-	1,277	10	0
								£57,938	12	5
Deduct working expenses at £450 per mile	-	-	-	-	-	-	-	17,100	0	0
Net profit	-	-	-	-	-	-	-	£40,838	12	5

Applications for shares received at the offices of Mr. Richard Till, Guildhall Buildings; Messrs. Parker and Hayes, 1, Lincoln's Inn Fields, London; Messrs. Rackham, Cooke, and Rackham, solicitors, Norwich; Messrs. Reynolds and Palmer, solicitors, Yarmouth; Messrs. Thomas Cardwell and Sons, sharebrokers, Manchester; and Messrs. Collinson and Flint, sharebrokers, Hull.

London, 6th December, 1843.

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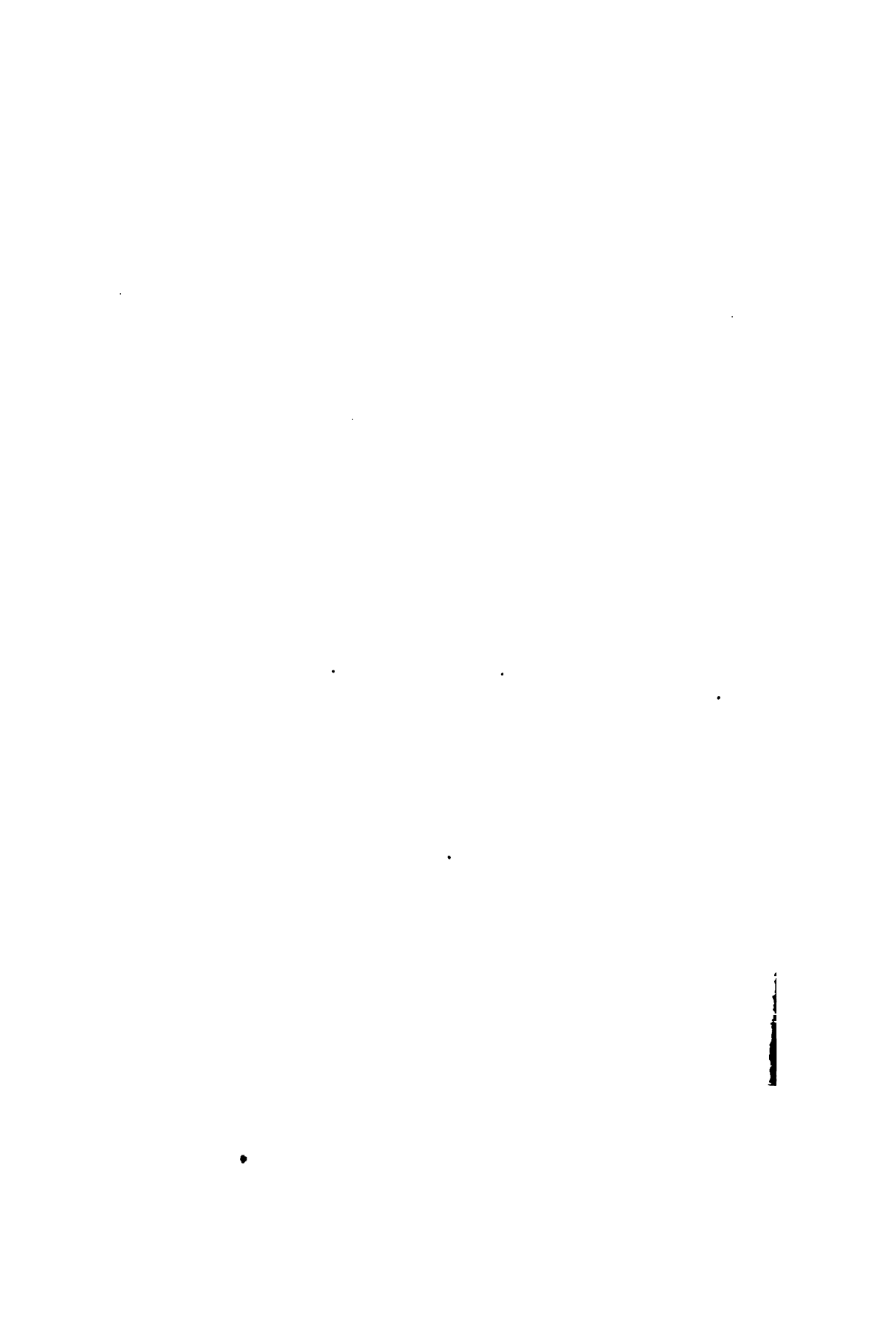
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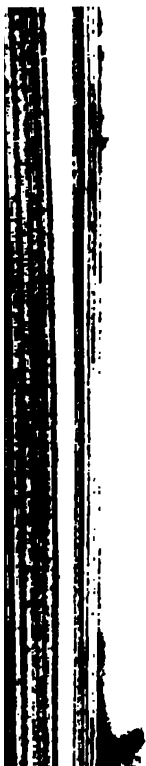
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